433, 162, 464, 439

Egypt	MR1
Turkey	MB1
Iraq	MH1
Syria	MD1
Lebanon	ME1
Historical Palestine	MF2
Israel	MF1

/For an account of the economic effects of industrialization after World War II and information on industrial output in countries of the Middle East, see 66: Bonne, M1 Middle East, category 116 as follows: Egypt - pp. 293-298, p. 309, Turkey - pp. 298-300, 307-308, Syria and Lebanon - pp. 300-302, 309-310, Palestine - pp. 302-304, Israel - pp. 310-311./

185, 433, 654

Egypt	MR1
Turkey	MB1
Iraq	MH1
Syria	MD1
Lebanon	ME1
Historical Palestine	MF2

/For an account of the program of industrialization in countries of the Middle East after World War I up to 1945, see 66: Bonné, M1 Middle East, category 116 as follows: Turkey - pp. 274-284, Egypt - pp. 285-286, Iraq - pp. 287-289, Palestine - 289-290, Syria and Lebanon - pp. 290-291./

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132
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433
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Iraq MH1

[For information on the topography, climate, agriculture and commercial crops, irrigation, stock raising, natural resources, production and supply, waterways, railways and roads of the valleys of the Tigris and Euphrates between the plateau of Asia Minor and the Persian Gulf discussed as one geographical unit rather than by political boundary, see M1 Middle East, Cat. 116, 21: Fisher, pp. 340-370.]

[For information on the topography, occupations and relative productivity of the desert plateau, and of the Arabian Peninsula as a whole, see M1 Middle East, cat. 116, 21: Fisher, pp. 427-449.]

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

a Turkish expedition first penetrated to their fastnesses, had been formed on paper into a qadhā of their own, with their Aghā irreplaceable as Qa'immaqam. The nomadic Harki passed annually across the Persian frontier, to the ruin of all settled folk in their path. Equally disastrous as neighbour or subject, and as ready to cross into Persia, was the oppressive restless Shaykh of Barzan, the religious prestige of whose family had attracted and settled a 'tribe' across the Zab from the Zibar country. Within the northern frontier of Mosul wilaya lay settled tribes, largely of the Ḥakkari group. They included the Shirwan, Mizuri, and Barwari groups. The folk of the tribeless 'Amadiya villages were reckoned also as of Ḥakkari stock.

6. RESOURCES AND COMMUNICATIONS

Many or most of the miseries of the 'Iraq of 1900 were due, it has been seen, to a single cause: the all-pervading poverty of the country and its Government. How then, in a territory famed of old for its wealth, were the modern 'Iraqis—and their Government—in fact gaining so poor a living?

The mineral resources of the wilayas were of the slightest. Building stone in the north, fullers' earth, some sulphur, salt, some low-grade 'coal' and gypsum: these were of some domestic use, but none provided wares for export. More significant were the seepages of mineral oil at many places in northern 'Iraq. At Hit on the Euphrates the bitumen outcrops had been worked since remote antiquity, and still gave material for the local industry of boat and coracle building. At Qaiyara and at Ṭuz Khurmatu the Saniya Administration owned outcrops of liquid petroleum, and exploited them by devices of comical primitiveness. At Kirkuk the seepages of Baba Gurgur belonged by ancient Firman to the Naftchi family. For those north of Mandali (which are those today exploited at Naftkhana), a refining plant had been erected at Ba'quba in 1871, but the project languished and failed. Applications by Europeans to exploit this and the Qaiyara oil were refused; but German experts had visited 'Iraq in 1871, and samples had been sent to London. The oil rights of the wilayas had been transferred, significantly, from the Finance Ministry to the Sultan's privy purse in 1889.

Local industry was insignificant and almost all unmechanized. There was some silk weaving at Baghdad and the smaller towns, some weaving of cotton and woollen cloths, rough mats and rugs. Jewellers' work was poor in quality, save for the curious antimony-on-silver "Amara work' of the Sabaeans. Finer work of Persian craftsmen in wood and ivory, and the kettles of the Baghdad coppersmiths, supplied local needs. Bright-coloured tiles were

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

433 made by Persians in the Holy Cities. Rifles with Russian-made barrels were made in an old-established factory at Sulaymaniya and thence distributed over all Kurdistan. Tanning and leather-work were practised in the suburbs of Baghdad; but the products—shoes, belts, and saddles—were of low quality. The local river-craft, of primeval design, were fashioned crudely from imported wood and Euphrates bitumen, and use was made in lower 'Iraq of the lashed poles of the skin-supported *kelleks* which were drifted downstream from Mosul and Diyarbakr. Beds and baskets were made from the date frond, mats from the marsh reeds. These, with some soap-making and the Jewish industries of 'araq distillation and the fabrication of forged antiquities, complete the meagre list.

501

439 The 'Iraqi-Persian transit trade, a main economic factor, has been elsewhere mentioned (p. 13). To it as an 'invisible export' should be added the proceeds of the great Shi'i pilgrimages—life-blood of the Holy Cities—and those of Sunnis to the shrine of 'Abd al-Qadir al-Gaylani; and, with these, the money spent in 'Iraq by travellers and archaeologists, missions, and foreign consuls.

457

439 Apart from export and transit operations, the trade of the territory consisted of the import of those needed commodities which the country could not itself supply. The imports, except for some part brought overland from Syria, Najd, or Anatolia, all passed through Baṣra and were distributed from Baghdad, the unquestioned commercial capital. Cotton cloth, handled by Jewish and British firms, formed three-quarters of the whole. Most of this came from Manchester, a little from India, some silken and woollen goods from France and Austria. Coal reached 'Iraq from Wales, coffee from Brazil and the Yaman, gunny-bags and indigo from India, kerosene from the United States, sugar from Egypt, France, and Austria, wood and tea, yarns and spices from India, date-box wood from Austria, tobacco from Persia. Such, with lesser quantities of paper, hardware, zinc sheets, colours, candles, and fezes, were the imports which were distributed to the limits of the rural and urban population by way of merchant's warehouse, vaulted or mat-covered bazaar, village shop and wandering pedlar.

436 The currency of the three wilayas was that of the copper qirsh (piastre), the silver majidiya, and the gold lira of the time, a stable coinage adequate to all needs. The intrusion of the Indian rupee in Baṣra and of Persian coins in the middle Tigris towns and Kurdistan was of little inconvenience in an age of steady exchange rates, no restrictions, and no paper-money. A multitude of local weights and measures varied capriciously from district to district.

804

453 Banking was represented by the Imperial Ottoman Bank, and by the shrewd operations of many local *ṣarrafs*.

1: Longrigg G-4, 5 (ca. 1915-1940) MHI Iraq MHI

Of the exports of 'Iraq's natural produce, dates were the most consistently important, and supplied, as they do today, a high percentage of the world's needs; and although in preparation, packing, and the technique of marketing the date merchants were backward, yet the culture itself, favoured by every natural advantage, was highly developed, and the famous 'Iraq dates found their way copiously to America, Europe, India, East Africa, and the Persian Gulf. Rice was a considerable but variable export. Wheat and barley—especially the latter—failed to supply exportable surpluses only in years of drought or locust visitation; but the quantities varied widely, and the quality was reckoned among the world's lowest. A few tons of the seed-crops, some gums and gall-nuts from Kurdistan, liquorice-root from the Tigris banks, were smaller but characteristic exports.

The shipping of Arab horses to India was ancient but fluctuating. Hides and skins were sent to Istanbul and Western Europe, clarified fat to India and the Red Sea, mohair to Istanbul and Europe, intestine-linings for sausage-making to America, dog-manure (under its trade-name of 'pure') for tanning to Austria. Various grades of local wool were pressed for export to America and London. By land to Syria went 'Iraqi camels, sheep by way of Mosul to Aleppo, cattle for Egypt, buffaloes for Anatolia.

The forest areas of the mountain belt of northern 'Iraq offered a potential resource of some interest. Between one-tenth and one-fifth of the higher mountains was covered by fairly well grown and productive forest, and as much again by scrub not incapable of improvement. This, in a territory deficient in timber of all kinds and forced expensively to import it, might have seemed to call for development to meet 'Iraq's needs of building-timber, date-boxes, furniture, and fuel. In fact, unchecked quantities of charcoal and fuel, poles for roofing, and foliage for cattle fodder were taken yearly by Kurdish villagers as, without forethought or control, their local supply seemed to make possible. Protection against grazing, encroachment or fire were all equally unconsidered, re-afforestation was ignored, and the stripped hill-sides were offered to the force of winter rains; the resulting erosion would, by way of the descending rivers, deposit the Kurdish silt in the canals of lower 'Iraq and create there an unending problem of clearance. The trees of Kurdistan were oaks of more than one species—including the giver of gall-nuts—and, less numerous, the juniper, wild pear, pistachio nut, walnut, and maple: and, by stream banks on the lower levels, the poplar, willow, mulberry, plane, and tamarisk.

Agriculture was by far the greatest industry in the territory, and the occupation of four-fifths of its inhabitants; yet with all its

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

312 work on the new Barrage began. Tenders for the complete con-
185 struction were called for in September 1910, and the contract
653 awarded to the British firm of Sir John Jackson & Co.

The construction of the Barrage, then and now one of the greatest works in 'Iraq, was carried out with extraordinary speed by a staff which included Turks, Indians, Armenians, and some 3,500 'Iraqis. The suspicion of certain elements in Turkish officialdom usually turned to gratified encouragement after a personal visit to Hindiya. Labour troubles were few. Transport, especially that on the Euphrates routes from Baṣra, presented extreme difficulties, with tribal blackmail and navigational obstacles: and the continual struggles needed to obtain funds from an empty Treasury in Istanbul and a harassed Daftardar in Baghdad were successful only after actual stoppage of the work seemed inevitable. The iron gates arrived in the late summer of 1913, and a crowded and triumphant ceremonial opening of the whole work was held in November of that year. Although the Barrage, which had cost less than £500,000, still lacked the canalization which it was designed to support downstream, it conferred immediately enormous benefits on the countryside which it served. These would have been a hundredfold greater if they could have included public security, an equitable land system, and some hope of new agricultural methods.

Elsewhere in 'Iraq, much of the earth-work of the Ḥabbaniya Escape in its first phase was completed, and digging of the Ṣaqlawiya Canal was begun but abandoned. Further surveys produced information of great future value, though no other major enterprise belongs to this period. A scheme for watering the Ḥawija, north-west of Kirkuk, from the Lesser Zab was begun without study and ended in fiasco and scandal. More important, and prophetic of a major development of the future, was the growing riverside use of oil engines for irrigation purposes. These increased from a mere dozen in 1900 to some scores in 1914. Meanwhile, flood-bank protection annually renewed followed its unsure and expensive course, rarely effective and always burdensome. The 'bunds' built by Nadhim Pasha for the safeguarding of Baghdad, though they failed partially in their first year, were an important work.

433 These last years of Turkish rule were marked by little industrial development. Some increase in local shipbuilding and the use of irrigation pumps, ice machines, wool and liquorice-presses called for the first time for mechanical repair facilities. The first motor-
494 car appeared in 'Iraq in 1908 from Aleppo; by 1914 less than a dozen were in use. These included a motor-bus service on the Ba'quba road, and the private cars of a few notables. Efforts to mechanize the Kufa tramway had failed.

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

two-metre-gauge systems (Baghdad–Baṣra and Baghdad–Kirkuk) remained a source of delay and trouble, and the floods of 1926 destroyed much railway property. But the reopening of Persian pilgrim traffic after 1924 brought welcome revenue to the railway. The Indian labour disappeared in thousands year by year, replaced by 'Iraqis.

Industry in modern guise was slow to appear. Cotton-ginning and mechanical transport maintenance, ancillary to other forms of enterprise, have been mentioned. Of modern manufacture there was none, though various possibilities were often discussed. The future source, however, of the country's greatest single enterprise and wealth advanced during these years from the conference-room into the open: mineral oil.

The Turco-Persian Frontier Commission of 1913–14 had allotted to Turkey, and therefore ultimately to 'Iraq, the western half of the Naftkhana border area south of Khaniqin; and the Turkish, and thus by inheritance the 'Iraqi, Government had accepted that this Transferred Territory should be treated as still included in the grant made to D'Arcy in 1901. Negotiations on this basis between the Anglo-Persian Company and the 'Iraqi Ministry of Works were concluded in 1925, and later reopened to produce a revised and modernized agreement in May 1926. Drilling had early located a producing well, followed by others, and it was decided to convey the crude oil by pipeline the twenty-mile distance to Khaniqin. The refinery which, with Government encouragement, the Company decided to erect at Alwand outside the town, but still within the Transferred Territory, was begun in June 1926. 'Iraq seemed thus assured of its own petroleum supply, with all the importance of this to mechanical transport, pump-irrigation, and perhaps future industries.

The Vizirial promise given to the Turkish Petroleum Company on 28 June 1914 had in the seven years following been first doubted but later affirmed by the Foreign Office. It was questioned but later accepted by the French who in 1920, under the Cadman–Berthelot agreement at San Remo, inherited the Deutsche Bank's 25 per cent. shareholding in the Company; and it was viewed askance by the Americans who demanded an Open Door to 'Iraqi development with no complication of old unratified promises. This diplomatic obstacle was removed by the allotment of half the Anglo-Persian share to a group of American companies by an agreement reached in principle in 1923, but not implemented formally until 1928. Thus the shares of the Company in its final form were held as to 5 per cent. as ever by Mr. Gulbenkian, and as to 95 per cent. equally between the Shell Group (as the Anglo-Saxon Petroleum Company), the Anglo-Persian (as the

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

Ruṭba, led to no discoveries. An experiment in the export of bitumen to India was short lived. Nor could industrial development proceed far, though it had its place in the programme of every Cabinet and in 1929 was encouraged by indulgent legislation in its favour. 'Iraqi capital, exploitable raw materials, a class of skilled artisans and local purchasing power: these were all lacking. The Government's Industrial Exhibition at Baghdad in 1932 had little to show. There had been local development of electric power and mechanized brick-making. Two ginneries, one British one 'Iraqi, stood ready for cotton that was slow to appear. Two wool mills dealt with the inferior local fleeces, small cigarette factories had transformed smokers' taste, a soap works and a tannery were indifferently successful. A cement factory was long projected, and in 1932 a concession was granted to Yasin Pasha and partners. To utilize 'Iraq's surplus products plans were made for a shoe factory, a fruit-canning plant, and date-sugar production. But the total of these could do little to solve the country's problems.

With the petroleum industry it was otherwise. Though oil export could not commence until late in 1934, it was established in 1927 that 'Iraq was to take its place among the world's great oil territories. The Turkish Petroleum Company's drilling campaign, inaugurated by the King with due ceremony in April of that year, was early rewarded by an oil strike of exceptional abundance at Baba Gurgur close to Kirkuk on 27 October; and while drilling at many locations proceeded with varying success, the dimensions and behaviour of the Kirkuk structure were confirmed by later tests as those of an oilfield of the very highest class, whatever others 'Iraq might prove to contain. The four years following were devoted, on the one hand, to preparing the Kirkuk field for production by drilling and scientific observation, and by the provision of necessary services—production installations, tankage, workshops, housing, and amenities—and on the other, to negotiating with Government for an extension of the period permitted for plot-choosing under the 1925 Convention, since much of northern 'Iraq had meanwhile been inaccessible to exploration: or, alternatively, for a recasting of that agreement itself. These negotiations ended with an agreement of March 1931 whereunder the Company (renamed 'Iraq Petroleum Company in 1929) renounced all its territory west of Tigris and south of latitude 33 but, within the retained area (which was the whole of north-eastern 'Iraq), could exploit not only chosen and limited plots but the whole territory. The Company promised to construct by 1935 pipelines to the Mediterranean of at least 3 million tons capacity, bifurcating at the Euphrates towards Haifa and Tripoli, and to pay annual lump sums of £400,000 (gold) a year to Government, pending production and

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

equivalent to first 15, later 25, and finally 35 per cent. of the Japanese imports. Russian competition, begun with formidable impetus in 1933, did not persist. 439

The transit trade with Persia, which by all indications had been under sentence of disappearance, survived though with a gradual loss of volume. It was aided by central and northern Persia's import of oil products, and by a small intake from the Levant across 'Iraq. Persian attempts to divert traffic from 'Iraqi routes, however, continued, and Muḥammara (now Khoramshahr) began to replace Baghdad as the financial centre of the trade.

The banking and financial background of internal business varied little, though an intention of closer Government control was shown by the law restricting certain occupations to 'Iraqis, by insistence on security deposits from foreign insurance companies, by the expressed willingness of Government to participate directly in industry and, early in 1938, by a law for the control of banking. The currency was well maintained on its sterling parity, the Board in London contributing an annual profit to the 'Iraq Treasury. The handling, transport, and distribution of merchandise was in some degree modernized; shops and hotels of European pattern multiplied, not in Baghdad alone, with Jews and Christians still prominent in these activities. Features of the period, which helped to bridge the 'Iraq of the 'twenties to that of the mid-century, were the beginnings of new suburbs, the modern villas, the many private cars, and the rudimentary bus services of the principal cities. They served a public in which the townsmen had in hundreds renounced Arab dress for European, had often doffed the characteristic 'Iraqi *sidara* in favour of a hat or bare head, and could walk out with ladies among whom the veil was no longer universal. 453 656 436 652 185 291

Local industry advanced but slowly. To the enterprises mentioned on earlier pages (p. 210) the years from 1932 to 1937 had little to add. One or two of the small textile factories were enlarged with German machinery and Czech operators; more small cigarette factories and more mechanized brick kilns were established, one-room ice and soda factories multiplied, a third cotton ginnery was planned for the Kut area, and enterprises for the making of confectionery and matches came into humble existence. Yasin Pasha's cement project, in spite of a visit by German experts, failed to materialize, and another cement scheme, in which an English promoter was active, inspired no confidence. 433

In oil development, on the other hand, these years were highly significant. The 'Iraq Petroleum and the B.O.D. Companies (p. 211) made annual dead-rent payments to a combined total of more than half a million pounds yearly until 1935, and thereafter the I.P.C. royalties alone doubled this amount. After a ceremonial 382

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

4. WAR-TIME ECONOMICS

722 511 More even than in political, administrative, or military activities, the dominant and largely unsolved problems of war-time 'Iraq lay in its economic life. This was abnormally disturbed; it was marked by phenomena common in the war history of many countries, those of high prices, shortage of needed supplies, and great increase of apparent wealth; and it profoundly affected the daily lives of the public.

565 511 The chief social effect of these conditions was the heightened contrast between the classes who made money from trade, contracts, sales of produce, and the many opportunities of the times, and those who did not. At one extreme were the merchants—many acting as such for the first time—middlemen with a gift for manipulating licences, Army contractors, and landowners with crops to sell. In the middle, and not unprosperous, were the self-sufficient cultivators receiving high prices and enabled in many cases to free themselves from the debts of a lifetime, shopkeepers and transport operators serving a swollen and moneyed military and civil public, artisans with their services everywhere in demand, and labourers sure of military employment so long as the British forces needed 60,000 of them. The poor were those tied, like Government officials, to fixed money incomes augmented at best by war-time allowances which ever lagged behind prices, and the writers and journalists and half-employed prowlers on the fringe of the professions and of politics. The effect of wealth on the first of these classes was to remove them, with higher material standards and demands, farther from the bulk of their countrymen; and that of hard times on the impoverished classes was sadly to lower the standards among the body of Government officials, and to drive a large part of the embittered and hungry middle class farther—and sometimes very far—to the Left. The structure of [182] society was loosened, solidarity and mutual respect decreased. Politically the discontents and frustrations of daily life were reflected, in bitterness or clashing aims, in the circles of the Cabinet and the deputies, and multiplied the embarrassments of successive Ministries. As in many another country, neither statesmen nor functionaries could produce the firm wisdom or the administrative technique to meet the conflicting stresses of a complicated and imperfectly diagnosed situation, which lasted for five years.

433 439 'Iraq's main contribution to the world's wealth, its grain and dates, continued to be produced with the annual variations due to rainfall, floods, pests, and canal performance. The crops were in part consumed by the growers, in part acquired by Government for resale, in part bought with Government authorization by the

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

British forces for their own needs, in part acquired by the United Kingdom Commercial Corporation for export to Great Britain or other territories, and in part exported by normal trade channels now regulated by export control. The date crop was still handled for export by Messrs. Andrew Weir & Co. The cotton which Japan ceased to take after 1941 was sent to India, but in quantities which high grain prices had much reduced; production touched 26,000 bales in 1940, but thereafter dropped for the next nine years to a fifth or even a tenth of that amount. Wool was sent to America, but with this and all other commodities both internal movement by land and water and the provision of shipping space from Baṣra presented difficult problems. A quantity of produce went by rail to the Levant and Turkey, and animals on the hoof, in years of good grazing, were sent to the British forces in Syria. The prices of all commodities were fixed in terms of imperious war necessity and of ever-growing 'Iraqi inflation, to which these prices contributed.

The import of manufactured articles and certain foodstuffs was limited to quantities below the level of satisfaction, thanks to reduced outputs in the supplying countries and to pressure on shipping space. Help was forthcoming more than once from American lend-lease stocks of drugs, metal goods, tyres, chemicals, and agricultural implements; Paiforce at times could help to meet an urgent shortage, and the British Government organized an emergency grain supply in 1942 from India and Canada; but, as in every country, abiding and irksome shortages remained, aggravated by maldistribution and by a habit of hoarding against which the law and public opinion strove equally in vain. The need at all costs to obtain supplies led to the urgent search for sources to replace Japan and other belligerents. An import licence system was established which, vastly profitable to some, worked with its share of imperfections and abuses; a price-fixing procedure was applied over a wide range of articles, with an attempted control of stocks enforced by occasional raids and prosecutions, but avoided by widespread black-market trading; and a rationing system, first applied to sugar in 1942, was extended next year to coffee and tea and later to cotton and woollen textiles. This control by ration-cards, based on imperfect tribal and urban lists, was a matter of extreme difficulty and gladly abandoned at the earliest moment; nor were the resulting stocks ever sufficient to admit an adequate allowance to the tribal public. Nevertheless, the rationing of essentials was both indispensable and attended with fair success. Late in 1944, in expectation of the war's end and by reaction from the attempted régime of universal close control in 1943–4, a policy of decontrol was substituted, and one commodity after another

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

The Lynch fleet had been diminished in 1938 by the loss of the *Mejidieh*, sold to Anglo-Iranian, and in 1941 by that of the *Malamir* and the *al-Kadri*, burnt out and scrapped respectively. Their rivals, notably Ḥannā al-Shaykh and 'Abd al-Karim Khudhayri (Khedery), were more than holding their own: but the competition of the railway and the roads must grow rather than diminish. To the road system, indeed, Paiforce contributed much, notably in the completed trans-desert highway to Jordan, in the re-surfacing of many road stretches, and in the maintenance in being of 'Iraqi transport fleets by the provision of tyres. Nevertheless, the upkeep of civil motor vehicles in war-time proved most difficult, and the numbers in use decreased. The air communications of the territory were not improved during the war; but before its end projects for a national air line were under formation. The European services crossing and visiting 'Iraq recommenced in 1945 after war-time curtailments, and the Egyptian Misr Airways restarted its Cairo–Baghdad service. A contract was given in 1945 to the Marconi Company for the erection of a new wireless transmitting station.

The course of foreign trade was notably deflected from its usual channels by the war. In 1939 the United Kingdom was its principal customer, followed by the United States, each of these countries taking approximately one-third of the total visible exports; but by 1944 the principal buyer was Palestine with Transjordan, followed by Persia. Visible exports, amounting to ID 4 million before the war, reached through enhanced prices ID 9 million before its end. The transit trade, reduced in 1939 to a value of some ID 3 million, reached ID 13 million five years later, thanks to the passage of goods to Russia. Imports rose from a value of ID 9 million before the war to ID 14 million in its last year; the United Kingdom's share in these fell from 33 to 11 per cent., that of Japan from 18 per cent. to nothing, while India's share rose from 8 to 30 per cent., Syria's from 2 to 16, the United States' from 8 to 12.

The desire for industrial expansion, always a cherished ambition, was stimulated by the war-time shortages and an increased local market; contrary factors were the shortage of raw materials, competition for skilled workers, and the impossibility of importing factory equipment. Of the seventy enterprises benefiting in 1944 from the law of 1929 most were on the humblest scale, with the importance only of pilot projects which could indicate to the middle class the possibility of a career outside Government service, the professions, or politics. Some war-time progress was made in brick manufacture; workshops produced hand-tools from scrap metal; the crushing of oil-seeds—cotton, sesame, and linseed—

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

433 increased on a small scale: the tanning industry was partly mechanized and the quality of its output improved. The two existing mechanically operated wool factories, the unmodernized distilleries, the three cotton ginneries, the small soap-works and cigarette factories, were increased during the war by an attempt at brewing, a primitive glass-works, a factory for paint and another for wax matches. The long-planned cement factory was not yet in production. An important cotton-spinning and weaving project had been initiated, but had not yet begun to operate. A plan to create a cinema studio in Baghdad was in 1945 the object of a visit by a British expert.

382 722 The necessity of postponing further oil development was, equally to the British companies and to the Government, the more regrettable as it seemed not to apply to comparable enterprises in Persia or Arabia; in the former, aviation spirit and other products were produced on a vast scale for war purposes, and in the latter American industry could find abundant equipment when British could not, and could secure for Sa'udi Arabia a long lead in production. The I.P.C. was forced to renounce until after the war the additional pipelines and consequent additional production which it had planned in 1938; indeed, its output was forced down by events in the Levant in 1941–2 from four to two million tons, and restored to full capacity only in 1944. The damage done to its installations in May 1941 was soon repaired, and it was able to assist the British forces by the provision of quarters and air-fields, loan of personnel, communications facilities, and the supply of refined products. The output of these was increased for war purposes, and plant at Kirkuk was improvised for the supply of motor spirit additional to that from Alwand. Factories for making tins were opened at Kirkuk and Mosul, and the two centres connected by pipeline. In Baṣra area a pipeline was built to connect Abadan and Shu'ayba. The destruction of many wells at Kirkuk as a precautionary measure against enemy invasion was ordered by the Army in 1942, but fortunately did not interfere with current production. Drilling was suspended from mid-1941 until the latter part of the war. In the area of the Mosul Petroleum Company (formerly B.O.D.) no operations were possible during the war at 'Ayn Zala or elsewhere, though at Baṣra exploration continued. These postponements, unavoidable in conditions which made engineering supplies unobtainable, were formally authorized by an agreement between the Companies and the Government in March 1943, whereby in return for a loan of ID 1,500,000 the Government granted a 'period of suspension' to begin in May 1941 and to run until two years after the armistice. Meanwhile the project of a Government refinery remained alive, though at present untimely; and to question the terms—or

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

423 565 those to whom mere shaykhly birth or recent business enterprise had brought title-deeds was obvious and envied. There was indeed room for criticism on various lines. The Government had parted with its right of free disposal of wide lands hitherto legally unencumbered though in fact occupied; this might obstruct later development plans. Vested interests had been over-generously recognized: land reform on an equalitarian pattern was, as the left wing of Baghdad politicians (and some foreign observers) insisted, as far off as ever. Nevertheless, within the limits of society and economics as they were, a great work of stabilization had been done. Disputes were few, confidence had been increased, and a return to the pre-settlement conditions of agrarian jungle law was unthinkable. For both the small and the large holding, for peasant-proprietorship, the capitalist's scientific farm, the Land Development Company and large-scale Government enterprise on its own vast unencumbered estates, there was clearly room in the 'Iraq of the future.

433 Though the limits within which industry was likely to develop were by the mid-century well understood, not least by the Director-General and the Committee for Industrial Research, there had been a measure of expansion during the last five years. The legal basis for its encouragement, which was the policy of every successive Ministry, had been altered by the cancellation of the 1929 law and of licences issued under it in favour of a new law of 1950. The latter granted important privileges to undertakings which were power-operated, employed 90 per cent. or more of local workers, cost at least ID 5,000 to erect, and used more than half 'Iraqi capital. By 1951 thirty-five projects had been accepted as fulfilling these conditions, and the Industrial Bank made loans to a number of them. Of the industrial output of such enterprises some was on the humblest scale and of slight interest; such was the production of sweets, macaroni, date-treacle, articles made in Kurdish marble, ceramics, wax matches, buttons, reprocessed glass, unglazed tiles, and aluminium pots. Manufactures on a less inconsiderable scale were those of flour, vegetable oils, cardboard and wrapping paper (made from wheat and rice stalks), soap, knitted goods, sausages and preserved meat, methylated spirits, 'araq, concrete pipes, plastics, steel windows, and tubular furniture. An earlier brewery having failed, a modern brewery using local barley began the production of excellent beer in 1949. An ambitious enterprise for the manufacture of jute gunny-bags was in course of establishment. Brickworks had continued to develop on modern lines, and were capable of meeting all local needs. 'Iraqi cigarettes had gone far to supply the country's smokers, from modernized as well as hand-operated workshops; only Kurdish-grown tobacco was used.

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

Much progress had been made, under the care of a Hides Association, in the better treatment of local hides and skins, and well-tanned leather was produced. Boot and shoe manufacture, largely by electrically-operated machinery, had increased in scale and quality. The cement factory outside Bahgdad, using lime brought from near Ṭuz Khurmatu, came into important production in 1949 and was soon selling 250 tons a day. The three cotton ginneries erected before the war—one of them an Agricultural Bank enterprise at 'Aziziya—remained in being, with capacity to deal with much more than the available cotton crop. Printing presses, all small except one European-owned and that of the Government, remained substantially as before the war, save in their modernized equipment. The spinning and weaving industry, which in some cases also dyed and finished its fabrics, had by 1950 greatly increased its pre-war development and used in part local cotton; a factory in Mosul made also rayon cloth.

Other industrial projects more or less near to realization in 1950 were for rayon production from straw, for local production of fertilizers, and for sugar-refining. The treatment of tobacco leaf had been intensively studied, but remained defective. The industries likely, it was thought, to develop further, using 'Iraqi raw materials and diminishing the need for import, were those producing cement, soap, alcohol, vegetable oil, leather and shoes, cigarettes, beer, and textiles. The other industries would in all probability keep a lesser though perhaps a useful place; none was likely to produce a considerable surplus for export, unless, as some hoped, an industry could be founded to use, for fertilizers or otherwise, the abundant by-products of petroleum. The Development Board intended considerable expenditure on 'industrial and mining schemes' in the period 1951 to 1956, upon lines to be later revealed.

'Iraq's poverty in minerals other than petroleum seemed in part to have been corrected by the discovery, in the later forties, of interesting copper and copper pyrites deposits in the mountainous Qal'a Diza area, and by reports from the Government geologist of an outcrop of excellent marble near Rayat and supplies elsewhere of chromite, iron ore, magnesite. These, or some of them, were thought capable of commercial development. A hard limestone suitable for barrage building was sought and found. Local salt, gypsum, brick clay, Mosul building-stone, and cement-making materials were in use as before, and it was planned to renew the activity which during the war had produced up to 15,000 tons a year of Kifri 'coal'.

In spite of the imposed delays and frustrations of the war period, the position achieved in the petroleum industry by 1950 was such as to place 'Iraq in the forefront of oil-producing countries, with

3: Clark S-5 (1950) 1951 MH1 Iraq MH1

smaller urban and semi-urban communities, the country is essentially rural and dependent upon agriculture. There are, it is estimated, some 35,000 square miles of cultivable land, only twenty per cent of which is cropped in any one year. The country is watered by the two rivers, the Tigris and Euphrates, and is amenable to great irrigational projects. Some large-scale and subsidiary irrigation schemes have been developed and others are under way. Until capital is available, however, to bring much more water to much more land, large areas of potentially arable and pasture land will continue in a state of unexploited fertility.

With the exception of a minority who dwell in the towns and smaller urban communities, the population is sparse and much of it mobile. Out of a total population of some 5,000,000 roughly twenty-two per cent live in urban areas, forty per cent in settled rural communities, thirty per cent in semi-settled rural areas, and eight per cent are nomadic.

The educational and other social problems and needs of the country can only be appreciated if it is realized that Iraq is predominantly rural in character and modes of life and, minor industries and developing oil projects apart, is dependent upon agriculture for its existence. There is a certain amount of industrial activity connected with drink, tobacco, soap, vegetable oils, foot-wear, bricks and a few cotton ginneries, but, generally speaking, the industrial capacity remains undeveloped. Oil output, however, is rapidly increasing, and the royalties from this industry have already made a valuable contribution to badly needed capital works.

Racially, the inhabitants may be roughly divided into seventy-seven per cent Arabs, seventeen per cent Kurds, three per cent Jews, the remainder being Turcomans, Yazidis and Assyrians. The number of Jews has, however, decreased by recent emigration into Palestine. The inhabitants may be further divided into distinctive religious groups, ninety-three per cent being Muslims, three per cent Jews, slightly less than three per cent Christians, the remainder being of miscellaneous faiths. Despite these marked religious differences, a feature of the public educational system of Iraq is its great religious toleration.

Generally speaking, although the inhabitants are distributed into distinctive racial and religious groups, they seem to share some important characteristics which, to the educator, are hopeful and significant. A visitor to the country cannot but be impressed with the great natural courtesy, friendliness and open-hearted hospitality invariably shown by people of all ranks and groups. In addition to these socially valuable characteristics, many of the people exhibit a quickness of response which, in those who have passed

3: Clark S-5 (1950) 1951 MH1 Iraq MH1

of modern pump irrigation, both landowners and urban speculators were able as pump providers to secure further advantages over the small peasant cultivator. The outcome of this combination of cupidity and circumstance is such that an experienced investigator into the land problems of the Near and Middle East maintains that 'the bulk of the land has come into the hands of a class from whom no leadership in agricultural methods can be expected and which is tyrannous, callous and oppressive'. This generalization is, however, not entirely just, for a minority of the landowners appear to take a greater interest in the welfare of their tenants than might be assumed. But, with few exceptions, the share-cropping peasant cultivator of Iraq lives a hard life of poverty which is only mitigated by ignorance of better conditions.

It is necessary that this problem of land tenure and its effects on the economic and social life of the country should be fully appreciated, and this for three vital reasons.

Firstly, the land is the main source of the future wealth of Iraq, and consequently of revenue for educational and other social purposes. There are, of course, those other possible sources of increased revenue indicated earlier in this chapter and, as will be suggested later, it is to be expected that the steadily increasing royalties from oil exploitation will contribute to the country's resources for social progress. But it must be reiterated that the most important source of national wealth in Iraq is the land.

Secondly, although improved methods of agriculture and of the organization of rural life are badly needed, these are hardly likely to be promoted by landowners who are interested in the *status quo*.

The agricultural productivity of 'the land between the two rivers', once renowned for its robust fertility and abundant crops, has fallen to an extraordinarily low level. The superficial causes of this lamentable state of affairs are primitive methods of husbandry, the lack of application of power and science to the land, insufficiency of irrigational facilities and the misuse of those that exist. Until improved methods of cultivation, stock rearing, harvesting and marketing, accompanied by a sound system of agricultural education both in the schools and at the adult level are applied, there can be little prospect of the land of Iraq being that rich source of wealth through which the people may live more abundantly. These improvements, however, are not likely to materialize under the existing land tenure system.

Thirdly, there can be little expectation that Iraq, constitutionally a democratic country, will develop effective democratic institutions, both centrally and locally, so long as the standards of the bulk of the population remain at so low a level.

5:al Dalli S-5 (no date)1954 MHI Iraq MHI

PROBLEMS OF INDUSTRIAL ENTERPRISE IN IRAQ

ABDUL GHANI AL DALLI ☆

433 Modern industry in Iraq, as in many other underdeveloped countries, has made significant progress in recent years and especially since the end of World War II. It is not within the scope of this article to discuss the causes of this movement in their relation to over-all industrial development and industrialisation in Iraq. The discussion in this paper will, on the whole, be restricted to the problems of industrial enterprise in the private sector of the economy. Consequently, Government industrial plans, as well as the oil industry have not been discussed. Likewise, the paper does not deal with the wider regional aspects of modern industry. As far as Iraq is concerned, the main causes for the progress of industry are to be found in the abundance of natural wealth, especially in the form of oil, the relative plentifulness of cheap labour in urban centers, the hardships suffered by the population during the war owing to the shortage of essential industrial products, the exceptional profits made during the war by proprietors of such modern industries as then existed (e.g. woollen textiles, cigarettes, soap, etc.), the accumulation of large sums of liquid capital in relatively few hands as a result of war and post-war inflation, and finally, the positively helpful attitude of Government towards industrial development.

654 The Iraqi Government has always tried to encourage industry, and
652 has granted it various exemptions from taxation under the Law for the Encouragement of Industry, passed in 1929, and its amendments. In 1946 - 47, however, it took a more effective step in the creation of the Industrial Bank, with a capital of I.D. 500,000 wholly contributed by the Government. The Bank's function is to grant loans for the establishment of new industries and the expansion and improvement of existing industries, to participate in joint-stock companies formed for industrial purposes, to start new industrial enterprises on its own account if need be, and to offer various services connected with the import of machinery, materials, and the export

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654 of products.[1] Financial assistance thus provided by the Government,
652 together with the new Law for the Encouragement of Industry issued in 1950, proved of great potency in the development of industry. The capital of the Industrial Bank was increased in 1952, to I.D. 3,000,000 of which I.D. 1,200,000 have already been paid up.
433 These and other measures, such as increases in custom duties
656 and the restriction or prohibition of certain industrial imports, have produced marked progress in the establishment of new industries and the re-equipment and expansion of old ones, especially since the end of World War II.[2] This can be seen from the following table:

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Development of Large-Scale Industry in Iraq 1948 - 1952

Year (1st April - 31st March)	Capital Invested I.D. 1000	Value of Annual Output I.D. 1000	Number of Employees	Wages paid annually I.D. 1000
(Seven large Industries)				
1948 - 49	3,183	1,603	1649	
1949 - 50	3,194	1,555	2626	333
1950 - 51	4,206	2,631	3443	486
1951 - 52	4,415	3,600	3837	486
(Ten large Industries)[3]				
1951 - 52	4,835	4,424	4533	599

1 Industrial Bank, Compilation of Laws, Regulations, etc. Government Press, Baghdad 1951.

2 For pre-World War II industrial development in Iraq see- *A Handbook of Mesopotamia*, H.M.S.O., 1917. *A Report on the Progress of Iraq*, by H.M. Government to the League of Nations. H.M.S.O.,1931. *The Iraq Directory*, Baghdad, 1935 (English Edition). *The Economic Organisation of Iraq* (In Arabic), Editor Said B. Himadeh, Beirut, 1937.

3 See the *Annual Report of the Department of Industry 1951-52*, Ministry of National Economy,Baghdad. (In Arabic)
The Report of the National Bank of Iraq, 1949-50, p. 46 (in Arabic) states that national production of cement, beer, vegetable oil, soap, leather.. etc., has been substituted for similar imports with the result that value of imports fell from I.D. 2,984,000 in 1948 to I.D. 1,298,000 in 1950, and the deficit in the balance of trade was reduced by I.D. 1,686,000 due to this reason alone during the same period.

The ten industries referred to in the table are: cotton spinning and weaving (one establishment), cement (one establishment), wool spinning (two establishments), modern tanning (five establishments), beer (one establishment), alcohol (three establishments), vegetable oil (one establishment), modern soap making (one establishment), artificial and natural silk weaving (six establishments), jute spinning and weaving (one establishment still under construction). The total is 22 establishments all of which enjoy government assistance under the Law for the Encouragement of Industry, and practically all have received financial aid in the form of loans or capital participation from the Industrial Bank. None of them employs less than 20 workers, and the majority employ over a hundred workers. All use power-driven machinery. It is interesting to notice that most of these industries are owned by joint-stock companies and that they have distributed profits during the last three years ranging from 9 per cent to 25 per cent.

Obviously the table does not cover the whole field of industrial development in Iraq. It has been constructed on the basis of a selected sample to show the rapid progress made in recent years. The unusual increase in ouput compared with the rate of capital investment as shown in the table is to be explained by the fact that most plants were still under construction or half-completed in the early years. A complete survey of the industrial sector in the economy of Iraq is still to come. The Central Bureau of Statistics, Ministry of National Economy, is expected soon to embark on this task. Such a survey will have to cover, in addition to those industries included in the above table, the following:

(a) Other modern industries in the private sector which represent a substantial portion of the whole, such as flour milling, workshops and agricultural machine repair shops, printing, cotton ginning, cigarette manufacture, the building materials industry, shoe-making, etc.

(b) The great oil industry owned and operated by powerful foreign concerns holding concessions from the Government. The oil companies produced nearly 8 million tons of crude oil and 400,000 tons of refined products in 1951, and employ over 12,000 workers. Their production is expected to rise to 20 million tons of crude oil in 1955-56.

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(c) Industrial enterprises being carried out directly by various government departments and agencies such as the Iraqi State Railways, the Port of Basrah, the Ministry of Defence, the municipalities, and the recently set up State Oil Refinery Administration which has already undertaken the construction near Baghdad of an oil refinery with an annual capacity of 1,000,000 tons of refined products, at an expected cost of about I.D. 7,000,000.

(d) Various handicrafts and semi-mechanised industries such as the date-packing industry.[1]

433 It need hardly be said that, although recent industrial development has been marked, it is still quite limited in relation to the economy as a whole and in comparison with industrial development in neighbouring areas. In Lebanon for instance, the industrial sector has been found to contribute approximately LL. 135 million, or 17 per cent of the total national income estimated at
434 LL. 830 million.[2] In our estimation, the industrial sector in Iraq contributes no more than 10 per cent of the total national income estimated at I.D. 150 million.[3]

000 The problems arising from, and the difficulties standing in the way of, industrialisation in Iraq, will now be discussed.

Industrialisation in general means the introduction of modern industry into an area which has been up to that time dependent for its livelihood on agriculture, trade and craftsmanship. Such an area would have had no experience of mechanised industrial processes, the organisation of modern factories, the division of labour inside such factories, nor would it have any clear idea of the material and human resources that such organisations would demand. Assuming that industrialisation of such a "new" or underdeveloped area is a desirable thing, two sets of problems seem likely to emerge. The first set of problems is connected with the ways and means of developing industry with reasonable speed. The second set of problems relates to the psychological, social and political effects that modern industry brings about.

1 For a brief but fairly comprehensive survey of industrial output and possibilities in Iraq see: *The Economic Development of Iraq*. Report of a mission organised by the International Bank for Reconstruction and Development. The Johns Hopkins Press, 1952. p. 148-50, also Annex D. p. 277 and following.

2 *National Income of Lebanon, Monograph No. 3* by Albert Y. Badre, Ph. D., and Assad Y. Nasr, M.A., Beirut, Lebanon, May 1953. Especially p. 24.

3 The ratio for more advanced countries is between 30 and 40 per cent.

000 industrial shares or bonds, local capital will continue to be held
455 in hoards, or invested in trade, agriculture and real estate. Speculation in land values, especially urban sites, has come to play a great part in the economy of Iraq, and incidently absorbs a great
000 deal of capital. The problem lies then not in the deficiency of capital resources, but in the utilization of these resources and above all in the creation of a suitable environment to induce private enterprise and capital into the industrial field. In the writer's view the creation of such an environment is the core of the industrialisation problem in under-developed areas. As things are, private enterprise is primarily absorbed in trade, agriculture and speculation — especially in real estate — where easy money can be made, and the whole economy remains stagnant. Once this problem is tackled both local and foreign capital will flow in. The State, that is the highest authority in a society, is called upon to take the initiative. Its action must include financial, technical, educational and administrative measures.

654 In Iraq the State has made attempts to deal with all these as-
433 pects. In the fiscal field it has afforded protection for industry in
[439] the form of high tariff duties on most industrial products and in the exemption of power-driven machinery from such duties. It has prohibited or restricted the import of articles the like of which are being manufactured in Iraq, such as cement, cotton yarn, vegetable oil, soap, tanned leather, beer. Industrial schemes are given priority in the granting of import licences and the allocation of scarce currencies for purchases from abroad.

The new Law for the Encouragement of Industry passed in 1950 consolidated early legislation and made new concessions. Under this Law Iraq-owned industrial enterprises, that is enterprises in which 55 per cent of capital at least is held by Iraqi nationals, are granted exemptions from income and surtaxes for four years; exemptions from import duties (not included in the tariff exemptions) on machinery, materials, equipment, spare parts and containers; exemptions from property tax for 10 years; and use of Government land free of rent up to 25,000 square meters. Industries enjoy these concessions as long as they use raw materials available in Iraq or produce goods imported in cosiderable quantities. In any case they should use chiefly power-driven machinery in their works. These measures without doubt played a significant part in

5:al Dalli S-5 (no date)1954 MHI Iraq MHI

the development of industry sketched above.[1] Industries which existed then or have come into existence since have benefited considerably from these concessions. But private enterprise remained shy of industrial activity until the establishment of the Industrial Bank in 1946-47. Through this Bank, the State showed itself not only willing to forgo some revenue in the interests of industry, but to provide cash, and to share in the risks of industry. As mentioned above, the Industrial Bank could not only give loans (against real or personal security), but also participate in the capital of joint stock companies. Its greatest value in my view lies in the fact that it can become a founder or promoter of industries and thus lead the industrial community and the investing public into new fields. However, the Bank was handicapped in the early stages, by the inadequacy of the financial resources at its disposal and the absence of economic and technical studies by which the feasibility of proposed industrial schemes might be judged. Moreover, the Bank lacked, and to some extent still lacks, a qualified technical staff. It has often to rely on the judgement of the Board of Directors or the advice of specialized Government departments such as the Directorate General of Industry and the Directorate General of Agriculture, which are not always fully equipped for the task. The Bank has continually asked for scientific surveys to be made of the mineral, agricultural and animal resources of the country. It has also called for an integrated economic plan covering industry, agriculture and other economic activities, in which the Bank, like other institutions, will play its particular role.[2] There has been strong resistance on the part of the Board of Directors to the allocation of money for technical staff or technical studies by experts, and often when money was allocated, it could not be spent because the Board disagreed on the qualifications of such experts (foreign or national) or the need for inviting them to study particular problems. However, as years passed and the financial position of the Bank improved, a section for the study of industrial schemes was formed and members of it were charged with the study of certain problems at home or abroad. A number of ad hoc committees of specialists available in Iraq were set up to study and report on proposed industrial schemes. Contact was estab-

1 No provision was made, however, for direct subsidies to industry, and no legal preference in government contracts was given to home industry.

2 See First Annual Report, Industrial Bank 1946-47/1947-48, Baghdad. (Arabic)

652 lished with various Government departments, and data were collected, classified and sometimes published for the guidance of would-be entrepreneurs. A number of foreign experts were invited to study either particular schemes (such as paper, sugar, artificial silk fibre, the exploitation of salt, etc.) or to concern themselves with industrial development in general, and make recommendations for improvements in existing industries or for the establishment of new industries. In addition to the absence of a general investment policy and planning, and the lack of economic and technical data to guide the activities of the Bank, there was, in the years 1947-50 the handicap of inadequate financial resources. When the Bank opened for business in 1946-47 its nominal capital, in accordance with a decision taken early in 1940, was fixed at I. D. 500,000. This figure was out of proportion with the changed level of prices and incomes, and the expansion of industry which had taken place meanwhile. Furthermore as the capital of the Bank was provided by the Treasury as a loan, it was up to the Treasury to decide what amounts to pay and when to pay them, and its decisions often did not coincide with the Bank's requirements either for funds or for making forward plans.

This situation, however, has completely changed as a result of increased Government revenue from oil in accordance with the Oil Agreement of 1951. The capital of the Bank was raised to I.D. 1,000,000 in 1951 and to I.D. 3,000,000 in 1952. Earlier, in 1948, 1949, and 1950, the Bank was forced to borrow from the reserves of certain Government departments, e.g. the Directorate General of Awqaf, Government Staff Guarantee Fund, and from other banks (especially the National Bank of Iraq). This form of borrowing was found to be less costly and more elastic than borrowing from the public. Another important source of capital which has developed in recent years is the annual net profits of the Bank. These have risen from I.D. 4,066 in 1948–49, to I.D. 7,745 in 1949-50, to I.D. 60,501 in 1950-51, and to I.D. 99,463 in 1951-52. The average rate of loans granted to industry in the last five years has been about I.D. 150,000 annually,[1] with an average loan period of three to four years. Hence a sum of I.D. 40,000 to I.D. 50,000 is repaid annually to the Bank. The paid-up capital of the Bank stood at I.D. 1,200,000

[1] The rate of interest was reduced from 7 per cent per annum to 5 per cent by decision of the Ministry of Finance in 1951.

5:al Dalli S-5 (no date)1954 MHI Iraq MHI

135 (2) The Supply of Raw Materials and Power: Iraq is potentially
233 rich in many kinds of raw materials. In the first place it has abun-
241 dant supplies of oil and gas which provide a cheap source of both
433 raw material and fuel. Secondly, it has pastoral and agricultural products such as wool, camel hair, hides and skins, meat, fish, milk, animal fat. Thirdly, it has fertile land which, with the extension of irrigation, can be a rich source of such raw materials as sugar beets, sugar cane, soybeans and jute, in addition to products already available such as tobacco, cotton, sesame, linseed, and practically all types of grain, fruits and vegetables. Finally, recent geological surveys have located outcrops of iron, copper, zinc and chrome ores. There are deposits of sulphurs, apparently of commercial value, in many parts of Iraq, and of salt, especially near Basrah. Yet each of these resources presents a different problem; none is easily exploitable (except oil); quantities available for industry are limited and the quality frequently poor. Agriculture has been kept at a low level of output because of the lack of irrigation schemes in most parts of the country; the difficulties caused by the present land tenure system and the agricultural techniques connected with the tribal system, which covers over 80 per cent of the cultivated area; the absence of an effective agricultural extension service and lack of modern storing facilities; these and other factors have held back both quantity and quality of agricultural and animal products. There was a noticeable extension in the cultivation of cotton in recent years, but the severe failure of the crop in 1951, owing to a pest attack, has been a great set-back. Difficulties in the supply of raw materials have held up many an industrial enterprise. The scheme for a sugar factory which has been under discussion since 1947 has had to be postponed from one year to another owing to the uncertainties connected with the
[28] cultivation of both sugar beet and sugar cane. The progress of the leather tanning industry, one of the oldest industries in Iraq, has been retarded due to the existing conditions in which hides and skins have been prepared and preserved, and great losses to this particularly native industry have resulted. The woollen textile
[289] mills have had to import certain qualities of Australian wool to mix with Iraqi wool which is of a coarse variety.

135 So far as mineral resources are concerned the surveys that have been made are insufficient.[1] Further exploration work is

[1] As of writing, in July 1953.

nationals in order that industry may qualify for the concessions granted by that law. This may appear as a discrimination against foreign capital and some foreign industrialists have raised this point. But considering the great concessions granted by the Law, including the appropriation of state land, and the smallness of the majority reserved for nationals, the "discrimination" is nominal. Past experience of foreign capital investment in the Middle East does not allow the removal of such safeguards. However, the writer believes that proper legislation on these three points mentioned above would give foreign industrialists sufficient assurance; and, given the proper information and contacts, many firms may be induced to establish branches in Iraq to the benefit of all concerned.[1]

7. Other problems: There are other less important industrial problems which should be mentioned even though limitations of space prevent full discussion of them.

(a) It should be realized that Iraqi industry labours under a heavy burden of over-capitalization which adds to its costs. There is a tendency to have completely integrated plants; most industries have to maintain a power generating plant either to provide electricity, or as a spare in case of failure in the city supply. Practically all industries have their own workshops. There is a strong desire on the part of all industry owners to be self-sufficient with regard to supply of materials, chemicals and spare parts. Many industries have been induced to purchase more land than they actually need in order to guard against future needs and also to profit from the expected rise in land values. This has led to an insufficient utilization of machinery and to a great amount of working capital, per unit of production, locked up. These facts are reflected in the balance sheets of many industries in the form of Loans from Banks (commercial banks) which in some cases reach 50 per cent of nominal capital and thus increase the fixed charges which industry has to meet. The reason for this desire on the part of industrials to be more or less completely self-sufficient lies in the fact that, owing to the country's industrial immaturity, it is often impossible to rely on efficient service from outside plants when required. The need to keep great stores of

[1] In accordance with the economic boycott enforced by Arab States, firms having business relations with Israel are excluded.

433 materials and spare parts is due to many factors. First is past
471 experience of the difficulty of obtaining such materials, due either to Iraq's distance from international markets, or to the shortages of world supply, or to the arbitrary attitude of suppliers abroad. Secondly, the fear of interruption of supplies owing to international emergencies and restrictions in the countries of origin. Thirdly, the influence of directors or big share-holders who own agencies for such materials or spare parts.

433 (b) There is great scope in Iraqi industry for improvement in the layout of machinery, flow of material, lighting, noise abatement, and temperature control.

466 (c) The problems of labour recruitment and organisation, systems of wage payment, housing and workers' welfare in general, fall outside the scope of this paper. It is sufficient to say that present labour legislation provides for weekly and annual holidays, for compensations in cases of injury or total loss of life, and prohibits the employment of children under twelve years. Industry is subject to inspection by officials of the Ministry of Social Affairs for the purpose of enforcing the labour laws. The formation of trade unions is permitted under the law, but so far labour organisations have played very small part in industry.

433 (8) State Assistance and Control: The main characteristics of in-
654 dustry in Iraq should by now be clear. It is of a recent development. It has developed largely under state protection and assistance. It has to operate within a very small market. The fact that industry is still in its infancy makes it hard to predict its future course. The part which government assistance has so far played in its development is of special importance and calls for examination. State assistance has taken various forms; tariff protection, exemptions from various taxes and duties, and financial aid through the Industrial Bank. Except possibly in the last case, government assistance to industry has not been based on any criteria of efficiency, or economic or social objectives. Any firm can obtain the benefits of state encouragement as long as it fulfills two conditions only; that it will use raw materials available in Iraq, or that it will produce goods imported in large quantities. It is necessary, if industry is not to grow lax behind the high walls of protection, to set up standards of efficiency, and to relax protective measures such as the prohibition of competitive imports, as soon as experience is acquired and production costs are stabilized. Benefits under

the Law for the Encouragement of Industry are granted irrespective of the locality in which the Industry is to be established or the type of industry embarked upon. Industries established in crowded, highly developed areas are given the same advantages as those established in remote, less developed districts. The manufacturer of producer's goods is treated equally with the manufacturer of consumers' goods and luxury goods. The criteria upon which an industry's claim to benefits is judged stand in need of drastic revaluation.

The limitation of the market in Iraq not only restricts the possibilities of large-scale development of most industries but it affords opportunities for monopoly control by one or two plants in certain fields. The danger of monopoly and exorbitant prices is already in sight in such industries as cement, beer, cotton and woollen textiles. The encouragement of new enterprise in these fields, or the relaxation of state protection to allow healthy competition, or direct intervention by the state to fix prices in relation to costs, is necessary to restrict monopoly power in the interests of the consumer and to preserve public confidence in industry. It is only on the basis of such confidence that the government can continue to give support and material aid to industry. The Iraqi Government has ample powers for dealing with the abuses of monopoly under the provisions of the Law for the Organisation of Economic Life of 1941.

The government can also extend its control over industry and prevent abuses by proper amendments to the law governing joint-stock companies. There is need to restrict the grant of free-shares or "water" shares to promotors, the creation of founders' shares with special powers of voting or percentage of profits, the interlocking of directorships, and abuses on the part of management in respect of purchases of materials and equipment, and sales of finished products. In particular, managers of joint-stock companies should be prohibited from trading on their own account especially in goods related to firms under their management.

The Industrial Bank has often been urged, as a shareholder in many industries, and with its representative on their boards, to exercise control over their price and sales policies. This suggestion derives from the prestige which the Bank has acquired in relation to industrial development. It has undoubtedly helped to iron out many difficulties, to improve management, and prevent abuses. But it is going too far to suppose that the Bank can actual-

6:Ireland S-5 (no date)1937 MHI Iraq MHI

eases are still rampant and infant mortality is distressingly high.

In agriculture the wave of optimism of the early 1920's has ebbed away. The Agricultural School at Rustam has been curtailed in funds, in purpose and in function. Improved machinery and agricultural methods foreshadowed during the British Occupation have not been introduced generally and are still regarded with disfavour in many quarters. Cotton, once believed to be the crop in which 'Iraq would rival the Sudan and India has been rendered unprofitable by boll-weevil, by hot winds, by the reluctance of the *fallahīn* to cultivate a strange crop which does not provide a living for themselves as it grows, and by the drastic fall in world prices. Wheat and barley remain of low quality, the foreign market being practically lost. Improvement in packing and marketing dates, 'Iraq's principal crop, has been apparent but effective co-operation among the growers is still lacking. Cheering features, however, have been the negotiations whereby Japan may take 'Iraqī wool and the signature of an agreement between 'Iraq and Palestine, December 14th, 1936, granting 'Iraq a free zone at Haifa and numerous commercial concessions.[1] The favourable trade balance of £217,000 for 1934-35, recently announced by the Ministry of Finance, is also encouraging.[2]

Large-scale industries are, for the present, practically non-existent although a number of projects, such as cement making, have been under consideration for some time. The Department of Labour Affairs, necessitated by 'Iraq's entrance into the League of Nations has had few important matters to come into its hands, although a law protecting 'Iraqī labour against foreign competition has been recently passed.[3]

These brief summaries of tendencies apparent in the political, economic and social life of 'Iraq seem to indicate, on the basis of absolute standards, the development of 'Iraq along unsatisfactory lines. It is only fair, however, in judging a government

[1] *G.B. and E.*, March 11th, 1937. [2] *Al-'Iraq*, September 7th, 1936.
[3] *G.B. and E.*, December 26th, 1935.

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I. Introduction

Iraq possesses impressive potentialities for economic development. With a total population of about 5,000,000 and an area of 168,400 square miles, Iraq is sparsely populated in relation to its resources. Although all but a relatively narrow belt in the north and northeast has insufficient rainfall to sustain agriculture, the country's twin river systems—the Tigris and Euphrates—can provide large amounts of water for irrigation. Much of its soil is inherently fertile and with ample water, manpower and implements, the area under cultivation might be almost tripled. In oil, Iraq possesses not only a source of foreign exchange but also a cheap source of power and raw materials essential to the development of industry, agriculture and transportation; and it may have other mineral resources susceptible of commercial exploitation. There is little doubt that the country can ultimately maintain a much larger population on a considerably higher standard of living.

As yet, however, this economic potential is in sharp contrast to the poverty prevailing in Iraq. The standard of living of the people is extremely low. Income per capita is probably at most ID 30.[1] Almost 90 percent of the population are illiterate and many are subject to debilitating diseases such as malaria, hookworm and bilharzia. Housing and sanitation are for the most part primitive. The fundamental reasons for these conditions are low output and low productivity. Most of the manpower on the land is underemployed for a large part of the year, and considerable unemployment exists in the major cities. Vast tracts of land await reclamation and irrigation before they can be used. Much of the available water is wasted owing to lack of storage and regulation of flow. In the spring disastrous floods often inundate large areas; and in the fall water is acutely short. Agricultural output is hampered not only by the inadequate and irregular supply of water, but also by the progressive salination of the soil in the irrigated areas. Agricultural techniques are primitive, the number and quality of draft animals are inadequate and there is insufficient equipment. Industry is little developed. Although perhaps as many

[1] One Iraqi dinar equals £1 or $2.80.

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as 60,000 people are engaged in industrial production (other than oil), virtually all of these are employed in small undertakings where the work is largely done by hand and productivity is accordingly quite low. Probably only about 2,000 are working in what might be characterized as modern industrial plants.

Fortunately prospective increases in government revenues from oil now make it possible for the government to undertake a large-scale program for the development of the country. Past investments in the oil industry will in the future yield large dividends in the form of a rapidly increasing production of petroleum. In accordance with an agreement reached in August 1951, subject to ratification by Parliament, the three internationally-owned oil companies operating in Iraq have undertaken to raise oil output, which amounted to only about six million tons in 1950, to 30 million tons per year by the end of 1955 and to turn over to the Iraqi government half of the profits before the deduction of taxes. On this basis it is anticipated that, over the next five years, the governmen may receive net revenues amounting to as much as 214 million dinars from oil alone. Under the terms of a law passed in 1950 these revenues will be available to finance development. They will be assigned to the Development Board, an autonomous agency established in 1950 to ensure greater continuity in the planning and implementation of development programs.

In the past, financial stringencies have severely limited public expenditures. The government has often had difficulty in making both ends meet. Severe economy has been the rule. Development outlays had to be kept small; government salaries were not raised in accordance with the increasing cost of living; and local administration was starved of funds. In the future the situation will be reversed. The principal task will be to find ways and means of spending rapidly increasing revenues in a manner which will contribute most effectively to the permanent development of the country. It is with this task in view that the Mission has drawn up its recommendations.

Any program for realizing the economic potentialities of the country should be broad in conception and well balanced. Investment outlays in dams and irrigation works, transport facilities and industrial plants must be complemented by increased expenditures

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III. Industry

Industry is as yet little developed in Iraq. As already indicated, apart from the oil industry which employs about 12,000 people, probably not more than 2,000 are working in modern industrial plants. These plants represent a total capital investment of approximately ID 4,000,000 and an annual gross income of about ID 3,000,000. Industry is largely confined to the processing of agricultural products, the production of building materials such as cement and bricks, and the manufacture of consumers' goods like textiles, soap, matches, cigarettes, shoes and beverages. 433

Conditions, however, are generally favorable to further industrial development. An expanding agriculture should provide more materials, such as fibres and oil seeds, for processing and when the standard of living among the rural population is raised there should be a growing domestic market for industrial products. In oil and natural gas the country possesses a cheap source of power and fuel as well as an important source of raw materials. There are surface indications of iron, copper, zinc and chrome ores, as well as of the existence of sulphur and salt deposits. The extent of such deposits should, however, be confirmed by core drilling before steps are taken to undertake their commercial exploitation. In the cities there is adequate manpower for industry, and the Iraqi workman with proper training is generally adept at learning industrial processes. Skilled manpower, however, is very limited, and, naturally enough, there is little of the technical "know-how" which comes through experience and training. Other limiting factors in industrial development are the lack of sufficient private capital and initiative. Much capital, particularly that accumulated from agriculture, is hoarded and the balance is generally invested in urban or rural property, which is regarded as less risky, or in commerce, where investors anticipate a higher rate of return. While there is a trend toward increased private investment in industry, particularly since the war, industrial development in the immediate future will have to depend very largely upon the initiative or financial assistance of the government. [135] [464] [454]

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all of Iraq's anticipated requirements for some time. This decision reflects an understandable desire on the part of Iraq to have a modern refinery of its own, replacing the somewhat inadequate and rather old Alwand refinery at Khanaqin which is owned by a subsidiary of the Anglo-Iranian Oil Company and is capable of supplying not quite 70 percent of Iraq's current requirements.[3] Foreign management of the new refinery will probably be necessary, at least for an initial period. The project will make it necessary to close the Alwand refinery and probably also the small oil field near the Iranian border from which it draws its crude. This field probably cannot be developed on a scale large enough to warrant investment in the pipelines necessary to export the oil.

Expansion of Old Industries

Some industries are now expanding without government financial assistance. The cement plant and the brewery are both doubling their capacity. Recent improvements and expansion have put the woolen industry abreast of the country's needs. Other industries do not for the present require expansion. Flour milling capacity, for instance, appears ample. The tanneries also appear to have sufficient capacity, but to raise the quality of their raw material supply, technical assistance is needed to improve methods of flaying and preserving hides.

Still other industries could usefully be expanded but do not have sufficient financial resources to do so without government assistance. The cotton and rayon textile factories in Baghdad and Mosul might well double their designed capacity and extend their facilities to make a wider range of products. At present cotton textile capacity can meet only about a quarter of the country's requirements. Since ample raw material is available and costs of production can become competitive with those abroad, further expansion would appear to be warranted. In its regular budget for 1951-52 the government has provided ID 1,000,000 for a government textile mill. The Mission believes, however, that government ownership and operation would not be desirable and that it would be vastly preferable to extend capacity with the participation of private capital and enterprise.

[3] By an agreement reached in December, 1951, the government took over ownership of the refinery, retaining the AIOC subsidiary provisionally as its operating agent.

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433 Further expansion of the vegetable oil extraction plant would be justified, the more so since increasing quantities of cotton seed will be available for crushing and the existing plant does not meet domestic requirements. Hydrogenation equipment for making cooking fats might also be added, and the capacity of the appurtenant soap plant might be enlarged so as to cover about half of Iraq's needs. The capacity of the country's only modern shoe factory, a small enterprise, might well be tripled to reach an output of about 100,000 pairs per year. Similarly, a plant producing aluminum utensils could well be expanded and complemented by facilities for melting and rolling aluminum scrap and pig, thereby substantially reducing costs of production.

Establishment of New Industries

Among the new industrial enterprises which could be advantageously launched are a jute mill, bonemeal fertilizer plants, an automobile tire factory, a small steel mill, a central machine shop, a concrete batching plant and a plant for the manufacture of date boxes. For all of these there is sufficient demand, and production could take place economically on a small scale. The small steel plant would smelt domestically available scrap and produce in a hand-operated mill such items as reinforcing bars, window frames and small angles. The central machine shop would replace the numerous small shops now engaged primarily in maintaining the 3,000 irrigation pumps in Iraq. This shop would significantly reduce the cost of maintaining pumps and, since these pumps are of relatively simple construction, would also be able to manufacture them. Small bonemeal plants could be built at Mosul, Baghdad and Basra to convert bones and other offal of abattoirs into a valuable fertilizer for domestic use. The growing demand for jute bagging would justify the installation of a jute mill capable of making about 10,000 tons of jute products per year. A small tire plant to manufacture tires under foreign license and with foreign technical assistance might also be feasible in a few years, particularly since the demand for tires has been growing rapidly and the development of road transport is expected to receive considerable impetus in the future. A concrete batching plant with ready-mix trucks would be useful in providing poured concrete for many small construction projects.

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In addition to the above-mentioned enterprises, it may well be desirable to establish a paper mill as soon as there is an assured supply of pulp from abroad. As the demand for paper bagging for domestically produced fertilizers and cement increases, it will probably be more economical to produce such paper in Iraq than to import it. A plant for the manufacture of glass bottles, other containers and tumblers might also be started, provided the availability of the right type of sand can be confirmed.

The largest and perhaps the most promising industrial possibility lies in the utilization of the natural gas produced in conjunction with oil and now almost totally wasted. The Mission recommends therefore that early consideration be given to the erection, near Kirkuk, of a plant which, using natural gas and gypsum as raw materials, would be capable of producing annually 500,000 tons of ammonium sulphate fertilizer, 100,000 tons of elemental sulphur, 10,000 tons of carbon black and 300,000 tons of cement. Since the natural gas contains about 10.5 percent of hydrogen sulphide by volume, it would be worthwhile to establish a plant to recover sulphur from all of the gas produced. Part of the cleaned gas would then be cracked thermally, producing hydrogen after removal of the carbon black. In the most important part of the plant the hydrogen and nitrogen won by removing carbon monoxide and carbon dioxide from the flue gases would be synthesized under high pressure into ammonia. Ammonia and carbon dioxide would then be passed through a slurry of finely ground gypsum, yielding calcium carbonate and ammonium sulphate. The latter would be sold as fertilizer and the former used to make cement. Such a plant could produce fertilizer very cheaply, thereby stimulating its use in Iraq; and any fertilizer not consumed domestically would find a ready market abroad. Sulphur and carbon black could be used in the production of rubber tires in Iraq and would also be in great demand abroad; and there will undoubtedly be a growing demand for cement in Iraq. The plant would cost aproximately ID 25,000,000, of which the sulphur recovery plant would account for about ID 8,750,000 and the cement plant for ID 1,500,000. It should be attempted only if a reliable foreign chemical concern can be interested in designing and erecting it and undertaking its operation under a management contract.

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317 The exploitation of salt deposits may ultimately prove to be another industrial possibility. A salt dome known to exist near Basra might provide large quantities of salt for both export and domestic consumption and might make possible the establishment of an alkali plant, for which the gas from the nearby oil field could furnish cheap power. The Mission therefore suggests that core drilling of this dome be undertaken in order to appraise its commercial possibilities.

● 433 In the process of industrial development the host of small enterprises which account in the aggregate for a considerable output should not be neglected. Among these are shops engaged in tire retreading, reclamation of lube oil, battery and electrical repair work, automotive and machinery repair, wood-working, etc. Many of them could be assisted to improve their production through installation of power-operated tools and other equipment.

In starting new plants and expanding old ones it is important that capital charges be kept at a minimum by arranging for maximum possible utilization of the installed equipment. This involves the employment of as many shifts as possible, the use of machines at maximum working speed and, above all, the use of purchased power. In the past, industrial plants have added unnecessarily to their capital overhead by installing their own power plants. Such plants usually prove costly since they operate only part of the time. Single plants catering to both industrial and lighting needs are 365 more economical because of a high and steady load factor. In order to induce industries to purchase power, however, the price of electricity for industrial use will need to be reduced. Such a reduction could be achieved in Baghdad, the principal industrial center, particularly if steps were taken to relieve the Baghdad Light and Power Company from the heavy burden of sharing its profits with the Iraq government and also having its profits taxed by the United Kingdom. Elsewhere, such as in Mosul, a reduction in power prices depends on more efficient management.

Financing of Industrial Development

433 471 The Mission believes that complete government ownership of industry should be adopted only where absolutely necessary. In general it will prove necessary only where private capital is not available either because the contemplated investment is too large,

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or because the investment is in a new and untried field which does not for the moment appeal to private capital. For the chemical plant proposed by the Mission the latter would probably be the case. The government apparently is also furnishing all of the capital for the oil refinery. Wherever complete government ownership is considered necessary, it would be desirable to have the Development Board act as the government's agent in putting up the necessary capital.

On the other hand, the existing Industrial Bank should be used as the agency for giving needed assistance to industry in all cases where the need is for expansion of present capacity or where there is a prospect of private participation in establishing new industries. This Bank, which began operations in 1946, has already performed useful work in promoting industry. At the end of February 1951 it had outstanding loans totaling ID 238,650 and participations in industrial enterprises amounting to ID 629,272. It has been handicaped, however, by a shortage of funds, since the government has paid in only ID 600,000 out of an authorized capital of ID 1,000,000. Its resources have to some extent been supplemented by borrowing ID 100,000 and ID 200,000 respectively from the Awqaf Administration and the National Bank. The Mission suggests therefore that the Development Board provide the means for gradually increasing the Bank's capital by about ID 5,000,000 which the Bank would be authorized to use for the making of loans to, and investments in, industry within the framework of an overall program approved by the Development Board.

Aside from making loans for production facilities, the Industrial Bank could assist industry by financing the construction of a bonded warehouse at Baghdad, so that credit could be extended on materials stored therein. The absence of such warehousing facilities has caused a chronic shortage of working capital in most industrial enterprises, for under existing conditions much of their capital is tied up in stocks of supplies.

The Bank's capital should be used primarily as a revolving fund. The Bank should generally dispose of its industrial shares whenever an enterprise becomes profitable and therefore capable of attracting more private capital. Profit-making assets should be kept only to the extent necessary to maintain a reserve against possible

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losses. While the Bank should presumably show a small profit to inspire confidence in its operations, it should not retain its participation in profit-making enterprises for the sake of maximizing its profits, particularly when this limits its ability to assist other industries.

To prepare the Bank for its expanding operations, its staff needs to be strengthened by providing for the appointment of an expert with wide industrial experience to head its Industrial Schemes Section and for the establishment of a small-business branch to pay special attention to the needs of small enterprises. The Bank should, of course, have access to the corps of technical specialists which, at a later point in the report, the Mission recommends should be attached to the Development Board.

Dangers of Excessive Protection

Particular care should be taken that government assistance does not foster inefficient industries at the expense of the country's standard of living. This danger is by no means unreal. A Law for the Encouragement of Industry, originally enacted in 1929 and replaced by a new act in 1950, provides limited but generous exemptions from income and surtaxes and customs duties, and government land free of rent for 10 years. Iraqi-owned industrial enterprises can qualify for these benefits as long as they primarily use raw materials available in Iraq or produce goods imported in considerable quantities. Neither of these conditions is necessarily relevant to efficient production; and it is therefore suggested that the law be amended to stipulate that, in general, such benefits should be accorded only to enterprises which have a reasonable prospect of becoming efficient enough to withstand foreign competition.

Industry is also protected in many cases by high import duties and in some cases, such as cotton yarn, beer and cement, by import prohibitions. In a small country like Iraq, where the limited market affords opportunities for only one or two plants in each field and where the entrepreneurial class is small, there is an acute danger of monopoly and attendant high prices. In Iraq this danger is aggravated by a tendency in some industries to emphasize limited production with high profits per unit rather than mass production with lower unit-profits. While the Mission recognizes the need for

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temporary, moderate protection of certain industries, it wishes to emphasize strongly the need for a rapid and progressive reduction in special assistance.

Government Organisation for Industry

Government activities relating to industry, except for the Industrial Bank, are now handled by a Department of Industry in the Ministry of Economics. This Department under its present director concentrates primarily on research and laboratory work and is not equipped to analyze and record the commercial and economic operations of industry. The Mission recommends that a Department of Industries be established to maintain adequate statistical records on industrial production, analyze economic problems relating to industry such as marketing, and administer the laws concerning assistance to industry. The research and technical functions now being carried on would then be continued under a separate Department of Industrial Research and Standards.

These two departments should gradually be equipped to give increasing assistance to industry in improving its output and reducing its cost of production. This type of assistance should be stressed more and more in the future as compared to special measures of protection and assistance which tend to shield industry against competition. Much can be done in the long run to assist industry in better controlling the quality of its products, reducing waste through material salvage, analyzing production costs, making market surveys and increasing labor efficiency through improved lighting, noise abatement, in-plant training programs and better work flow.

Labor and Vocational Education

Finally, it should not be overlooked that a contented, well-trained labor force is of the utmost importance to industrial development. An improvement in working conditions and more attention to the welfare of the worker would tend to increase labor productivity. Such an improvement can to a large extent be brought about only through a growing realization among employers that it is to their own interest. The government should, of course, lay down minimum standards in this respect, particularly since the absence of real trade unions precludes workers from achieving

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the only remedy available were a more equitable division of income. Fortunately, the future does afford the promise of a large increase in national income as a whole. The country has the natural resources—land, water and oil—which can bring a much higher standard of living to all. The revenues from oil will provide the means for a potentially rapid development of other productive resources. The central objective must be the attainment of a much higher output in a manner that will benefit the people as a whole.

In a country like Iraq principal emphasis will inevitably need to be placed on the development of agriculture. For this reason schemes for the storage of the flood waters of the Euphrates and the Tigris will be of key importance. They will prevent disastrous floods and control the flow of the rivers so as to bring more water to deficient areas and open up large new areas for settlement by land-hungry peasants. An increase in production, however, will not come simply from an expansion of the area under cultivation. The time will come when further expansion will not be possible except at great cost. This makes it all the more necessary to raise the present low productivity of agriculture. The drainage of lands which have deteriorated owing to salting has accordingly been emphasized by the Mission as one of the first objectives. Great importance is also attached to the early development of an adequate agricultural extension service, supported by an effective practical experimental organization, which would work directly with farmers in improving their methods of production. Other measures recommended to this end include the provision of incentives to use fertilizers and to cultivate soil-building and fodder crops, and the organization of cooperatives and more ample credit facilities so that farmers can have easier access to improved means of production—better plows and draft animals, other agricultural machinery, seeds and fertilizers.

Industrial development can in many ways effectively complement agriculture. The proposed chemical plant at Kirkuk, supplemented by bonemeal plants, could provide the cheap fertilizers needed to raise the productivity of Iraqi agriculture. Expansion of cotton textile and vegetable oil extraction capacity would capitalize on the growing output of cotton. The proposed modern machine shop would cater to agriculture by reducing the cost of irrigation

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654* 433 pumps. In other respects industrial development would be geared to supply the growing demand for consumers goods, such as shoes, textiles and utensils, and for construction materials, such as cement, arising out of the development program itself.

654* 439 Rising agricultural and industrial output will necessitate a corresponding increase in transport capacity. Here the development of road transport and the replacement of wornout track, locomotives and rolling stock will be the principal tasks of the future.

654* 871 744 Since the relationship of health and education to production may appear more indirect, there is danger that these two subjects will be neglected in the emphasis on greater national output. Basically, however, it is the productivity of manpower which must be raised, and this can be achieved only if measures are taken to make people better educated and to free them from debilitating disease. In the future the public health effort must concentrate on the prevention of disease through such measures as increasing the number of village dispensaries, the training of midwives, the organization of a corps of sanitarians, elimination of stagnant and polluted water, provision of safe water supplies and sewage disposal, slum clearance and better housing. Community planning should focus largely on such improvements as will contribute to better public health. A great broadening of the educational effort is needed in the future to teach people how to cope more effectively with the problems of everyday living. To this end, compulsory primary education should be gradually introduced over the next 15 years and a vigorous campaign for the education of adults should be launched. At the same time, however, it is vitally important to adapt education to the practical needs of the people, helping them to improve their health and their methods of work.

654* The program which the Mission has outlined in this report is undoubtedly ambitious. It requires a rate of progress unprecedented for a country which for many centuries remained virtually static and which over recent decades has developed at a relatively slow pace. There is no assurance that the program can be carried out over the next five years. Yet the Mission has thought it important to set up targets, even ambitious targets, toward which the country can strive. If successful, the program will bring about a

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311 waters of the twin rivers are largely wasted and periodically unloosen disastrous floods upon Baghdad and the alluvial plain to the south.

The Rain-fed Zone

241 438 In the upland plains of the rain-fed zone stretching from Northern Mosul to Suleimaniya, wheat and barley are the principal crops. Rainfall is generally inadequate for summer crops, although water from streams and springs permit cultivation of rice and cotton. In part of this area, especially Northern Mosul, there has been a rapid extension of cultivation with the help of modern agricultural machinery.

233 438 241 To the north and northeast lie the mountain massifs of Iraq. Here the raising of cattle, sheep and goats by Kurdish nomads is one of the principal occupations. The mountains are largely barren of trees but offer natural pasture for animals. In the valleys and on hillsides grain, tobacco, timber and fruit are grown. Tobacco, although small in area, is an important cash crop.

438 433 [315] Except for some handicrafts, there is little native industry in this region. Mosul, the second largest city in Iraq, is principally a commercial center and an outlet for exports to Syria and Lebanon. Kirkuk, however, is the center of most of Iraq's petroleum production and one of the largest and richest oil fields in the world. Oil fields of subsidiary importance also exist at Ain Zaleh in Mosul province and near Khanaqin in Diyala province. The mountains of the North may ultimately yield other minerals such as copper, chrome and iron.

The Irrigation Zone

133 311 South of the rain-fed zone the river valleys may be divided into three major regions: the upper river valleys; the lower river valley down to Amara and Nasiriya; and the triangular area from Nasiriya and Amara to the mouth of the Shatt al Arab.

The first of these regions includes most of the northern Jezireh and the area north of Baghdad and east of the Tigris. The latter area still awaits irrigation for the most part, and the Jezireh is hardly susceptible to irrigation because of the elevation and configuration of the land. The Jezireh is an upland plateau

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V. Production

A considerable part of Iraq's potentially large resources are as yet unutilized or ineffectively utilized. Most of the manpower on the land is underemployed for a large part of the year, and considerable unemployment exists in the major cities. Vast tracts of land await reclamation and irrigation before they can be used. Much of the available water is wasted owing to lack of storage and regulation of flow. Oil reserves have as yet been tapped only in relatively modest quantities. The output of the country is therefore still very low and the standard of living correspondingly depressed.

Agriculture and Livestock

Estimates of the area and output of the principal crops are given in the table below. Although the statistics are not very reliable, they give some indication of the relative importance of the various crops. Barley and wheat are clearly the dominant crops. Barley is one of the leading exports, and cereals altogether accounted for 43 percent by value of the country's exports other than oil in the period 1948-50. Rice is another important cereal. Cotton is now vying with rice as the leading summer crop. Stimulated by high prices and government encouragement, the area planted to cotton has risen rapidly in recent years. In 1951, probably about 580,000 donums were put in cotton—almost five times the amount in the preceding year. Other summer crops are comparatively insignificant. Some sesame is grown for oil, and some corn, millet and grain sorghum. Tobacco assumes importance only in the mountainous area of the North. Virtually no crops are grown for animal fodder, and the production of hay is unknown. The area devoted to soil-building crops such as legumes is rather small.

Next to cereals, dates are the most important crop. There are about 20.2 million date trees, of which about 9.7 million are along the Shatt al Arab near Basra and the balance in the central valley districts of the Tigris and the Euphrates and the Diyala River Valley. Dates are a staple food over most of Iraq and date exports, particularly from the Basra area, contributed 31 percent by

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231 population. Livestock, however, are an adjunct to agriculture rather than an integral part of it. Many fellahin have no livestock at all except for a draft animal or two. Livestock are left to forage for themselves, with only some supplementary feeding with straw and perhaps barley in the winter. Only the livestock in and around the cities are systematically fed. Livestock yields are generally very low, primarily because of inadequate feeding, but also because [439] of poor breeding and disease. Yet livestock and livestock products —wool, hides and skins, and casings—accounted for about 13 percent of the total value of Iraq's exports, exclusive of oil, in the period 1948-1950.

Industrial Output

● 433 Industrial production is still very small. Reliable figures on industrial output and employment are unavailable. According to the Department of Labor, there are roughly 2,400 enterprises in industry, exclusive of service industries, employing over four persons. From Department of Labor data as well as certain supplementary sources, it is possible to give a breakdown for approximately 45,000 people engaged in industrial production. As already indicated, the actual number of people so employed is apparently considerably greater if account is taken of small handicraft enterprises. About 11,500 are employed in petroleum production and refining. The textile, apparel and footwear industries probably employ about 11,000 people. The processing of food, beverages, tobacco, other agricultural products and livestock products accounts for an employment of perhaps 9,000; the production of building materials, including bricks, tile and cement, for about 6,000; and wood processing, for approximately 2,000. Metal-working and machinery repair and maintenance account for most of the balance.

These employment figures tend to convey a rather exaggerated impression of possible industrial output. With the exception of those in the petroleum industry, virtually all are employed in small undertakings where the work is predominantly done by hand and productivity is accordingly very low. It is estimated that only about 2,000 people are engaged in what might be characterized as modern plants. Among these are one woolen and one cotton mill, one brewery, several distilleries, a cement plant, a vegetable oil and soap factory, and a number of flour mills.

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TABLE 7

ESTIMATED INDUSTRIAL EMPLOYMENT

Petroleum production and refining	11,500
Food and beverage	4,500
Tobacco	3,500
Wool and cotton processing, textiles, wearing apparel and footwear	11,000
Wood processing and wood products	2,000
Leather (other than footwear)	450
Chemicals (vegetable oils, soap, etc.)	550
Building materials	6,000
Metal-working, including jewelry	1,500
Machinery and machinery repair	2,700
Electricity and water supply	1,100
Miscellaneous	1,000
Total	45,800

Indications of output in the more primitive industries are very scanty, but data on output in some of the more modern industries can be found in the monograph on Industry. Production is, in general, on a modest scale, although some industries such as cement fill most of the country's needs.

Petroleum Production and Refining

Although production of petroleum is now rising rapidly, it has been relatively modest in the past. The exploitation of oil is predominantly in the hands of three companies—the Iraq Petroleum Company, the Mosul Petroleum Company and the Basra Petroleum Company—all owned in equal shares, except for five percent controlled by Mr. Gulbenkian, by the Anglo-Iranian Oil Company, the Royal Dutch-Shell, the *Compagnie Française des Petroles* and the Near East Development Corporation (owned jointly by Standard Oil of New Jersey and Socony-Vacuum). Of these three, the Iraq Petroleum Company, which is exploiting the large field near Kirkuk, is the only one in production. In addition, the Khanaqin Oil Company, a subsidiary of the Anglo-Iranian Oil Company, has a small concession adjoining the Iranian border.

Efforts to develop production have been concentrated mainly on the Kirkuk field where oil is found at the depth of only between

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to supplement its capital by borrowing and accepting time deposits from certain institutions, their resources have been wholly inadequate to the need.

VIII. Domestic and Foreign Trade and the Balance of Payments

As noted earlier, trade is probably the second most important occupation. To all appearances, the system of distribution is extremely wasteful. Both in the small towns and in the larger cities there are numerous traders with very small stocks of goods, who cannot possibly earn more than an exiguous income, even if their margin of profit is high. The position is, however, not likely to be cured until the general level of incomes rises and there is alternative opportunity for employment.

Iraq produces most of its food, but apart from fuel, tobacco, and some building materials, most of its other requirements must be imported. Even the small local industries and handicrafts depend to some extent on imported raw materials. Much of the trade is therefore foreign trade. Baghdad is the principal center for the import trade and also has a considerable share in the export trade, although Mosul is the main center for the export of wool and Basra for dates and barley.

Although there are a number of large firms, among them several foreign companies, engaged in the export-import business, trade is by no means monopolized, as can be seen from the following table which shows the distribution of import licenses granted:

TABLE 9

IMPORT LICENSES: 1951

Import Quota (ID 000)	Number of Importers		Total Allocation (ID million)
	Baghdad	Other Cities	
100-180	36	18	6.6
50-80	60	24	4.9
20-40	344	147	13.1
5-10	1,015	502	10.4
	1,453	691	34.9

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439 actually less than before the war, so that, although domestic production has increased, consumption per head must have fallen. Since the war, however, the government has encouraged the import of secondhand clothing, licenses being granted for imports from the United States.

433 Iraq usually produces sufficient cereals for its own use, imports
439 in 1948 and 1949 being the consequence of two successive harvest failures. Apart from ghee, spices and some vegetables, most of the other foods are high-quality products consumed by the comparatively rich. Of these the import of beer has recently been prohibited, since a modern brewery now supplies the country's requirements.

Both soap and matches are made in Iraq, but soap manufacture was until recently a "backyard" industry and the quality of the product was poor. The sharp drop in imports of cement and timber in 1950 is a consequence of the new cement plant coming into full production. Imports of timber were also low owing to a depression in the building industry. Timber requirements are, however, likely to increase, as Iraq's own sources of supply are meager. Imports of iron and steel have also been affected by the slump in construction. This category, however, includes a wide range of other articles besides structural steel, the most important in recent years being pipelines for the oil companies. Other articles, such as household ware, should more properly be included with consumer goods.

As Iraq's output of refined petroleum products is limited to a small refinery and the requirements of motor transport, irrigation pumps, agricultural machinery and industry have steadily increased, a growing deficit has had to be made up by imports. The government plans to build a new refinery which should, when completed, remove the need to import virtually all of these products.

Among the most important categories of machinery are irrigation pumps and agricultural machinery, imports of the latter having greatly increased since the war. Other items include equipment for electricity production and distribution, and plants for the various new industries started since the war, such as textiles, distilling and the manufacture of ice.

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The miscellaneous category includes such items as glassware, ceramic products and pharmaceutical products. A number of raw materials or other products used in industry are also included, for example: tanning material; leather for shoemaking; wooden boxes and other materials for packing dates (to the value of about half a million dinars in 1948); oils and oilseeds for the vegetable oil and soap industry; and non-ferrous metals for the small metal-working industries.

Exports

The three principal groups of exports are dates, cereals and animal products. Although there have been large fluctuations in the quantities exported, particularly of cereals, over the last 25 years their combined value has usually been at least 85 percent of the total value of exports other than oil, and has often been more. Of the remaining export products, cotton has usually been of some importance in the past and promises to be of much greater importance in the future. Prewar and postwar values of the groups of exports are shown in the following table:

TABLE 13

PRINCIPAL EXPORTS
(in millions of dinars)

	1931-35 Av.	1936-39 Av.	1947	1948	1949	1950
Dates	0.9	0.9	4.7	4.7	3.2	4.3
Cereals	0.7	1.3	6.7	0.2	5.8	10.8
Animal products	0.5	1.2	1.2	1.6	1.2	2.2
Other	0.4	0.5	1.2	1.1	1.0	3.1
Total	2.5	3.9	13.8	7.6	11.2	20.4

Dates. Iraq has long been the foremost exporter of dates in the world. The quantity exported has increased steadily from an average of 120,000 tons in the late twenties to 200,000 tons since the war. The crop may vary considerably from year to year. For example, the amount exported in the last quarter of 1949 and the first three quarters of 1950, which represents approximately the exportable surplus from the 1949-50 crop, was about 150,000 tons. The 1950-51 crop, on the other hand, was unprecedentedly large and a record amount of 340,000 tons was exported.

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439 433 As Iraq has such a large share in the world's trade, variations in the size of the crop can cause large fluctuations in price and, in a prolific year, marketing difficulties. Since 1939 the burden of marketing the prime quality varieties (Khadrawi, Hallawi and Sayer), which are sold in the United Kingdom, Western Europe, North America and Australia, has been largely removed by a series of bulk contracts between the Date Association and a British company, under which the latter has agreed to purchase at a fixed price all dates of these varieties grown in Basra province.

No such scheme exists for the Zahdi and other lower quality dates. Their principal markets are in India, Egypt and other countries of the Far and Middle East to which much of the trade is carried in the traditional Persian Gulf sailing ships. Disposal of the extremely large 1950-51 crop through the normal channels proved impossible and the price of Zahdi dates fell during 1951 to a point where it was hardly remunerative to transport them to Basra. Faced with this situation, the government sent a trade mission to India and Pakistan and succeeded in making agreements with those countries which provided, among other things, for increased imports of dates.

Cereals. Barley is the only cereal now exported in large quantities, but the quantity is subject to extreme fluctuations owing to the great variability in the crop. On the average, exports have increased considerably over the years. In the latter half of the twenties, they averaged 100,000 tons and before the war 230,000 tons. From 1945 to 1947 they were around 250,000 tons annually, but successive bad harvests in 1947 and 1948 led to a temporary ban on exports in 1948, when less than 3,000 tons were exported. Two bumper crops followed, however, and in 1949 and 1950 exports, which had not before exceeded 300,000 tons, amounted to 326,000 and 462,000 tons respectively.

433 439 262 There was normally a surplus of wheat for export before the war; in 1937, the best year, over 100,000 tons were exported. Since the war, however, exports have been negligible except in 1950, while in 1948 and 1949 there were considerable imports as a consequence of the bad harvests. On balance, therefore, Iraq cannot at present be considered an exporter of wheat. This is, no doubt, due to the increasing consumption of wheat in the country, as a

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consequence not only of the increase in population, but also of the shift from the rural areas, where barley is often a staple element in the diet.

Large quantities of rice are produced, but the surplus for export has always been very small. The only other cereal exported in any quantity is millet.

Animal Produce. The principal animal products exported by Iraq are wool, live animals, hides and skins and casings (intestines), usually in that order of importance. The sheep is the main source of these products, providing all the wool and usually the bulk of the other products. As with dates and cereals, the quantities exported vary greatly from year to year, sheep being vulnerable not only to disease, but also to extremes of winter cold and summer drought. In contrast with the other main exports, however, there has been no tendency for exports of animal products to increase. Exports of wool, hides and skins have, on the whole, been below prewar levels, while those of casings have fallen off badly. As animals are often taken across the frontier on the hoof, customs returns of live animals exported are not reliable. The recorded decrease since before the war, is, however, too large to be discounted.

Information on the animal population and on the domestic consumption of meat and other products is sketchy and unreliable. A rise in the consumption of meat could well explain the loss of exports of live animals, but this in turn would tend to make available a larger, not smaller, supply of most by-products. Part of the explanation of the fall in export products may lie in a declining sheep population owing to the gradual shift from the pastoral life to settled agriculture and from agriculture to the towns. The monograph on agriculture and animal husbandry discusses the shortcomings of the livestock industry and recommends measures to improve livestock raising and the quality of livestock products. The value of exports of animal products is likely to continue its downward trend unless these measures are undertaken speedily and vigorously.

Sheep are especially important as a potentia source of dollars. Wool is the most important export to the Unted States, which also takes all the casings exported and considerable quantities of

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ANNEX C

AGRICULTURE AND ANIMAL HUSBANDRY

I. Introduction

The main features of agriculture and animal husbandry in Iraq have already been set forth elsewhere and are only briefly recapitulated here.[1] Barley, wheat, rice, dates, other fruits and vegetables, and, more recently, cotton are the principal crops. Animal husbandry is of great importance but at present is really not integrated with agriculture. There is virtually no mixed farming. Crop and livestock yields are very low. Poor feeding is the principal cause of the low productivity of livestock. Low crop yields are attributable to poor drainage in the irrigation zone, to the failure to maintain soil fertility through the use of manure and fertilizer and the cultivation of soil-building crops, and to inadequate tools of production. Advances in agricultural techniques are seriously hampered by the poverty and ignorance of the fellahin who cultivate the soil and by the lack of interest displayed by most of the large landowners in improving agriculture. While there are extensive lands that can be put to the plow, particularly if more water is made available, a substantial portion of the land now in exploitation may be said to be overpopulated considering the present level of agricultural technique.

An increase in production is urgent. The standard of living which now prevails on the land is deplorably low. At the same time the population is increasing at a rate that can be expected to grow more rapid as public health improves. Output can be greatly increased both by extending the area under cultivation and by raising the productivity of land already being exploited. Primary emphasis has hitherto been placed on the first of these, and large new water storage and irrigation schemes are being planned.[2]

[1] See Annex A, *Basic Factors and Conditions.*
[2] See Annex B, *Flood Control, Irrigation and Drainage.*

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433 Undoubtedly this is important not simply as a means of raising production, but especially as a means of increasing the number of independent peasant proprietors, today so conspicuously few. In the future, however, more attention should be given to increasing productivity. It will take a long time to settle substantial numbers on new land. The living standard of the fellahin who will continue to work the land already in use can be improved only by a rise in productivity, unless there is a drastic redistribution of the output as between the landlord and the cultivator. Moreover, if output per man employed on the land cannot be raised, it may prove difficult to find the needed manpower to carry out the large development program for Iraq as a whole or even to settle newly opened lands without a significant curtailment of production in the existing agricultural areas.

000 This monograph is therefore chiefly concerned with measures to improve productivity. The first section discusses diversification of production, with emphasis on those crops which will bring animal husbandry into a more intimate relationship with agriculture. The second section deals with the possibilities of expanding the output of some of the crops already grown. The third section treats of some of the means by which productivity in general might be raised—better methods of cultivation and better tools, more effective control of pests and diseases and similar measures. In the next section the improvement of livestock and livestock products comes in for special attention. The succeeding section takes up the essential steps in a government program to improve agriculture and animal husbandry—the organization of an extension service, supported by adequate research and experimentation; the provision of more ample credit facilities; and the establishment of cooperatives. Following a brief discussion of forestry, the problems involved in the settlement of new land are examined, with special stress on the opportunities it offers to develop agriculture from the very beginning along more advanced lines. Finally, in the concluding section the organization of the government's agricultural services is considered.

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ANNEX D

INDUSTRY

I. Iraq's Potential for Industrial Development

The economy of Iraq is predominantly agricultural. In recent years, however, a national desire for industrialization has become increasingly evident and is being actively encouraged by the government. In 1929, the government took the first step to assist industry by passing a statute known as "A Law for the Encouragement of Industry". It proved to be of little significance, however, as it failed to provide industry with any financial assistance. It was not until seventeen years later, when the government created the Industrial Bank, that the problem of obtaining the necessary capital was partially solved. As a result, industry has since made some noticeable strides and should continue to do so.

On the whole, however, industry is as yet little developed. Excluding the petroleum industry, modern industrial plants employ only 2,000 people and account for a total capital investment of only about ID 4,000,000 and an annual gross income of roughly ID 3,000,000. The very modern and important oil industry, on the other hand, provides employment for about 12,000 people. During the war a number of important industrial enterprises were started. Rising prices and difficulties in getting materials, however, retarded orderly progress, so that some of these new projects are still in the process of completion.

Natural Resources

There are ample resources for further industrial development. An abundance of oil and gas provides a cheap source of both fuel and raw material. Particularly as irrigation is extended, agriculture will become increasingly important as a source of raw materials such as cotton, sesame, linseed, and possibly sugar beets or sugar cane, soybeans and jute.

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Several geological surveys have located outcrops of iron, copper, zinc and chrome ores. The extent and quality of these ores, however, will not be known until further exploration work has been accomplished. There are surface indications of 30 percent elemental sulphur mixed with limestone but, as in the case of the ores, these deposits have never been adequately proven. Previous to the large-scale production of oil, some coal was mined, but actual reserves have never been fully ascertained. A large and potentially valuable salt dome was located near Basra when geophysical surveys were being conducted in connection with oil exploration. It would appear, therefore, that Iraq has a fairly broad range of minerals which might be worthy of exploitation.

Some Factors Affecting Industrial Growth

Some of the basic causes of industry's retarded development are lack of private investment, technical inexperience and inadequate markets. In the past capital has often been hoarded or invested in rural or urban property or in commerce, where the security or rate of return was believed to be higher than in industry. To some extent this tendency has been overcome through tax exemptions, tariff protection and the financial assistance of the Industrial Bank.

On the other hand, little is being done to increase the number of skilled workers and technicians through education and training. One of the biggest handicaps in apprentice training is the lack of elementary education. Employees who are unable to read and write obviously can neither receive written instructions, maintain material and inventory control, select proper repair parts nor attend advanced in-plant training classes. Until this is corrected, Iraq must continue to rely on skilled foreign technicians and, in some of the larger and more complicated industries, on foreign management.

The supply of common labor is now ample and will probably remain so for many years to come. A shortage of labor, should it occur, could be corrected by the employment of women in greater numbers and by further mechanization. Industry has not, however, reached the stage of development where this should be attempted, for a highly mechanized plant means high capital costs, greater

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overhead, increased maintenance and the need for a higher level of skilled workers. As long as labor is in sufficient supply, it will be better to use the available amount of capital to mechanize a considerable number of plants to a limited degree rather than to establish a few highly mechanized plants.

Limited internal markets, because of a small population of low purchasing power, restrict the number of industries which may be economically justified unless the product can be produced cheaply enough to find a foreign market. This condition, however, would be corrected to some extent through a rising standard of living, especially among the rural population. Improved methods of farming, increased irrigation, better sanitation and more intensive education should help to raise purchasing power gradually. As government measures to these ends begin to take hold, industry can expect the demand for consumer goods to increase at a much faster rate.

Iraq's geographic location is also a factor to be taken into account in planning industrial development. High transportation costs handicap those industries requiring the importation of a high percentage of raw materials from Europe and America. The same obstacle will, of course, confront industries relying chiefly on European markets for their finished product. The best prospects for industrial growth are therefore found in those industries which, through advantageous production costs, are able to absorb the shipping costs or those in which shipping costs represent a very minor component of the market price of their product.

II. Possibilities for Industrial Development

Expansion of Existing Industries

Many industries, such as brewing, cement making and woolen textiles, are now in the process of expansion. Partly because of tax exemptions and reductions granted by the Law for the Encouragement of Industry, these enterprises are able to finance their expansion themselves. Other enterprises which can usefully be

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●433 expanded will, however, require financial assistance from the Industrial Bank. This should be arranged just as soon as plans can be formulated.

Petroleum Development

382 315 [471] The further development of the oil industry can safely be left to the internationally-owned companies now operating in Iraq. Under an agreement finalized early in October 1951, subject to ratification by Parliament, the three major oil companies—the Iraq Petroleum Company, the Mosul Petroleum Company and the Basra Petroleum Company—undertook to increase their oil output to 30,000,000 tons per year by the end of 1955 and to turn over to the Iraq Government 50 percent of the profit on their production before the deduction of taxes. Although output in 1950 amounted to only about 6,000,000 tons, there should be no difficulty about attaining the agreed target. The oil resources of Iraq are immense, the reserves of the Kirkuk field amounting reputedly to 1,000 million tons, with the new fields near Basra offering equal promise. In the development of these fields and means of transport, the oil companies have already made an investment of close to ID 90,000,000, which is now beginning to yield a rapidly rising output. Development in the Kirkuk and Mosul field has already proceeded on the assumption that a production capacity of at least 22,000,000 tons would be achieved in a few years, and with the completion of the pipeline to Banias, Syria, there should also be ample transport capacity. The balance of the projected output, namely 8,000,000 tons, will have to come from the newer fields near Basra. This may require some increase in drilling and will necessitate additional pipeline capacity to Fao, but neither of these will be difficult to accomplish.

382 466 The oil companies have been among the leaders in Iraq in providing better conditions and amenities for their employees and in instituting schemes for training skilled labor and technicians. They have been criticized, however, for their failure to appoint more Iraqis to leading positions. Under the agreement already cited they have undertaken to send 50 Iraqi students per year to British Universities to study various subjects relating to the oil industry, and also to establish a school in Kirkuk to train 60 Iraqis yearly in technical oil subjects.

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Breweries

274 Iraq's only brewery, having a capacity of 50 barrels per day, is not adequate to meet market demands. The owners are therefore in the process of obtaining additional equipment to double the plant's output. The brewery, which has been in operation since 1945, is very modern in design and its product is of excellent quality.

Distillery

Iraq's only source of ethyl alcohol is a small, modern, well-designed distillery located in Baghdad. Surplus dates are used as raw material. Although they are not expensive, they are nevertheless more costly than the raw materials, such as molasses, which are used in the alcohol industry in other countries. Thus the distillery is operating at about one third capacity, since the market will not absorb its entire production at the prices it charges. Most of the current output is used in the making of the national alcoholic drink known as *arak*.

258 ***Date Packing***

Date packing is probably one of the oldest industries in the country. Market requirements have kept the industry very modern and fully capable of meeting all demands on it.

Matches

372 There are two match manufacturing companies in Iraq, both producing matches of very good quality. One company utilizes paper, and the other wood. Their combined production is equivalent to about one half of Iraq's requirements.

Cigarettes

277 The bulk of Iraq's requirements of cigarettes are made in the country from home grown tobacco. The output of 12 factories in 1949 amounted to 2.25 billion cigarettes, but there were in addition many small producers of handmade cigarettes. Even in the factories much of the work is done by hand, but further mechanization cannot be expected until labor becomes more expensive.

Small Enterprises

433 There are many small enterprises in Iraq which could be
445 expanded, such as tire retreading, reclaiming of lube oil, wood-

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working shops, battery and electrical repair work, shops for repair of automotive and agricultural equipment, bakeries, confectioneries and food processing establishments of various kinds. The amount of capital required in individual cases is quite small but, in the aggregate, it adds up to a considerable sum. The Industrial Bank should arrange for a small-enterprise section to make surveys of small industries in each community, advise them concerning ways of improving their methods of production and assist in getting proper financial help where it is justified. It is estimated that ID 400,000 would be sufficient to meet the needs of these industries over the next five years.

The assistance of small industries by the Industrial Bank is to be preferred to assistance or stimulation of so-called cottage industries. Cottage industries may be of benefit in the over-populated areas of Asia, but for Iraq they do not appear to be an appropriate solution to industrial growth. Iraq's population is small in relation to the resources available. Over the long term its problem is not primarily one of creating a maximum number of jobs with a minimum of capital but rather one of utilizing capital resources in ways which will make a permanent addition to the productive capacity of the country and to the building of modern industrial enterprises.

Establishment of New Industries

The entrance of industry into new fields would help to balance the over-all development of the country and to utilize its resources more fully. At the same time it would increase employment and thereby aid in raising the general standard of living.

Nitrate Fertilizer, Sulphur and Cement Plant

The largest and perhaps most promising possibility for new industrial development lies in the utilization of the natural gas produced in conjunction with oil. Upon completion of the 30-inch pipeline, oil production at the Kirkuk field will be at a rate which will make more than 25 billion cu. ft. of gas available per year. For the most part, this gas will be wasted until some means is found for its economic utilization. This gas contains, according

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Paper Mill

289 Iraq does not have a suitable source of material for a pulp plant at this time. The development of a paper making industry would therefore require the importation of pulp to meet its various requirements. This procedure would ordinarily be both practicable and economical; however, the world market for pulp is now very critical and may remain so for several years. It is recommended, therefore, that the paper mill be held in abeyance until an adequate supply of pulp is assured.

III. State Assistance to Industry

Financial Assistance

454 433 The widespread reluctance of private capital to venture into industry can be overcome only gradually as the profitability of industrial investment is demonstrated in various fields. In the meantime, it will be necessary for the government to furnish most of the capital for industrial development.

Plants which will require a large amount of capital and will need completely foreign management at least in their beginning may have to be financed completely by the government through the Development Board. The oil refinery and the fertilizer plant are projects which fall into this category. Other more modest undertakings will require relatively small amounts of capital and in most cases may be economically operated by Iraqi management even though some foreign technicians may be necessary. This combination lends itself to the use of private capital, which should be encouraged as much as possible by the government, by means of financial assistance where justified.

652 433 The Industrial Bank is now the principal agency for rendering financial assistance to the development of private industry. The Bank, which began operations in 1946, has already performed useful work in promoting industry. At the end of February 1951, it had outstanding loans totalling ID 238,650 and participations in industrial enterprises amounting to ID 629,272. It has been handicapped, however, by a shortage of funds, since the government has

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paid in only ID 600,000 out of an authorized capital of ID 1,000,000. Its resources have to some extent been supplemented by borrowing ID 100,000 and ID 200,000 respectively from the Awqaf Administration and the National Bank. The Mission suggests, therefore, that the Development Board gradually supply the funds necessary to increase the Bank's capital by ID 5,000,000. The Bank would be authorized to use this sum for making loans to, and investments in, industry within the framework of an over-all program approved by the Development Board.

The Bank's capital should be used primarily as a revolving fund. The Bank should generally dispose of its industrial shares whenever an enterprise becomes profitable and, therefore, capable of attracting more private capital. Profit-making assets should be kept only to the extent necessary to create a reserve against possible losses. While the Bank should presumably show a small profit to inspire confidence in its operations, it should not retain its participation in profit-making enterprises for the sake of maximizing its profits, particularly when this limits its ability to assist other industries.

The Bank at present is understaffed. The directors pass on projects without the benefit of expert assistance, and, as a result, some phases of a project may be completely overlooked. With a shortage of staff, the transaction of business with the Bank is also time-consuming and thus discourages applicants.

The Mission recommends that, first, the Bank's staff be both increased and strengthened and, second, that it be reorganized to give greater responsibility to the head of the Industrial Schemes Section who should be a properly qualified man with broad industrial experience. Members of the Industrial Schemes Section should have thorough training and practical experience in power and mechanical engineering with special reference to industrial planning and layout, and in operations, management and control of industry with special reference to cost accounting.

Protection of Industry

The "Law for the Encouragement of Industry" enacted in 1929 was replaced by new legislation in 1950 which grants limited exemptions from income and surtaxes for four years; exemptions

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654 433 651 from import duties on machinery, material, equipment and spare parts; exemptions from property tax for 10 years; and use of rent-free government land not in excess of 25,000 square meters for a period of 10 years. Iraq-owned industrial enterprises can qualify for these benefits as long as they primarily use raw materials available in Iraq or produce goods imported in considerable quantities. Neither of these conditions is necessarily relevant to efficient production; and it is therefore suggested that the law be amended to stipulate that such benefits should be accorded only to enterprises which have a reasonable prospect of becoming efficient enough to withstand foreign competition.

Industry is protected in many cases by high import duties and in some cases, such as cotton yarn, beer and cement, by import prohibitions. Industrial enterprises have not so far taken full advantage of these restrictions, but if they should do so the demand for their products would undoubtedly diminish significantly.

Foreign competition is always a useful check on inefficiency. Its beneficial effects in bringing about lower production costs and a better product have been demonstrated many times in Iraq. For example, even industries protected by high tariffs have been forced to modernize in order to reduce costs and meet competition. To attempt to shut out foreign competition will, in general, retard, rather than foster, industrial growth. In some cases, it is true, new industries may need protection during the early years of operation. Protection should not, however, be allowed to become a permanent shield for inefficiency; as experience is acquired and production costs are stabilized, protective measures should be greatly reduced.

In a country like Iraq where the limited market affords opportunities for only one or two plants in certain fields, there is an acute danger of monopoly and attendant high prices. This danger is aggravated further by a tendency in some industries to emphasize limited production with high profits per unit rather than mass production with lower unit-profits. Foreign competition would appear to be the proper means of restraining trends toward monopoly within a particular field, just as it operates to stimulate modernization in plants suffering from high costs because of obsolete methods.

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sures of production and assistance which tend to shield industry against competition. There is much to be done to help industry to achieve better control of the quality of its products, in reducing waste through material salvage, in analyzing production costs, in making market surveys and in raising labor efficiency through improved lighting, noise abatement, in-plant training programs and better work flow.

IV. Other Suggestions for the Improvement of Industry

Possibilities for Economies in the Use of Capital

Whenever the capital cost of a plant is an important determinant of production costs, it becomes essential to utilize the plant to the fullest extent. This may be accomplished, for example, by increasing the number of shifts, by extending the work week and by stepping up machines to their maximum economic speed. Completely integrated plants seldom if ever offer the opportunity for this type of operation, because certain machines are never called upon for continuous use. This is, of course, very noticeable where the plant does all its own maintenance work, even to all of its foundry items. The solution is obviously one of resorting to contracting or sub-contracting with concerns specializing in particular operations. For example, a single finishing and dyeing concern might advantageously serve two or more textile mills, where the capacity of these mills is insufficient to load separate finishing departments to their economic limit.

In Iraq there is a tendency in industry to generate its own power rather than to purchase it. This leads to the installation of expensive facilities which are utilized only part of the day. While industry is operating, many municipal power plants stand virtually idle because they serve primarily lighting needs and their peak load accordingly comes at night. In some cases, where large quantities of process steam are needed, industrial enterprises may be justified in generating their own power, but for the most part, the purchase of power is preferable. Unfortunately, power rates, except in Basra and Baghdad, are so high that the purchase of

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433 365 power by industry is out of the question. It is hoped, however, that in time this may be corrected.

Even in Baghdad the purchase of power by industry would be greatly stimulated by a reduction in the industrial rates of the Baghdad Light and Power Company. Profits, after depreciation [471] but before taxes, are now over half of gross receipts. Under the terms of its concession, the company pays a substantial part of these profits to the Iraq Government, the remainder being allocated to United Kingdom taxes, reserves for capital expenditure and dividends. The Iraq Government's share in the profits effectively constitutes a tax on electricity consumption, which it might be well advised to forego if it could thereby secure an equivalent reduction in power rates to Iraqi industry. The government might, therefore, explore with the Company and with the tax authorities in the United Kingdom the possibility of an equitable arrangement, whereby power rates would be reduced as far as possible, while still providing adequate funds for capital improvement and continuing a fair return to stockholders. A possible arrangement that has to be considered is the exercise by the government at the end of 1954 of its option to purchase the undertaking as a going concern. If such a course should be decided on, it would be desirable to enter into a management contract with the Company in order to ensure the continuance of efficient operation.

433 488 452 The amount of working capital required in Iraq per unit of production is exceedingly high, partly because enterprises want to be as self-sufficient as possible with respect to needed supplies and materials, partly because Iraq is relatively distant from international markets. Probably the best means of reducing the need for working capital would be through the erection and operation of a bonded warehouse which would provide all industries with facilities to store, until needed, supplies, material and chemicals of all types under conditions that would enable banks to extend credits on the stocks in bond. In this way the banks would have assurance that the stored material would not be released prior to full payment plus interest, storage and service charges. In effect, this would permit operations along lines very similar to those in highly developed countries where supplies and materials are obtained in accordance with production schedules.

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arranged so that the material flows through the plant with a minimum of handling.

3. Use of Time Studies and Cost Accounting

Time studies are indispensable in some industries. In textile and machine shops, for example, these studies are essential to break down production costs for proper evaluation. To illustrate, a large costly lathe might show a greater return by speeding up its operation through the use of a different design of cutting tool, or a planer might show such a low return that its replacement by a milling machine would be fully justified. In textiles, time studies might show that it is actually more costly to have one operator tending five looms than to have him tend only four looms; or the reverse could be true, depending on all of the related factors. There are numerous other examples which could be cited to show the need of time studies in certain sectors of industry.

Cost accounting is very important to good operations and must be practiced before an industry can expect to reach maximum operating efficiency. Without it, many losses, which could easily be avoided, go unnoticed by management.

4. Improved Administration

At present there is very little delegation of responsibility by management to foremen and supervisors. This limits the economic size of plants and tends to complicate the work of management. There are good reasons for this situation, chiefly the widespread lack of education, experience and training, which has already been described. While the basic problem can be overcome only in time, industry can take steps to alleviate the immediate situation through such measures as on-the-job training programs suggested earlier, special courses for supervisory personnel, and better organization of inventories and distribution of stores of spare parts. The result should be an increase in production and, at the same time, a reduction in per-unit cost.

5. Greater Emphasis on Workers' Welfare

To hire and train a worker requires time and money, and the investment is lost if, because of sickness, the worker is unable to hold his job or to turn out a full day's work. A physical examination prior to hire would insure that a worker is physically

3:Royal Institute of International Affairs U-4 (no date)1954 M1 Middle East
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874 ics in agricultural areas. Foreign advisers and instructors are being extensively employed. *Commercial:* secondary commercial schools in Baghdad, Mosul, Najaf, with night classes in Baghdad and Najaf. Commercial classes have been introduced into the ordinary secondary school curriculum in various cities. *Nursing and Domestic Science:* Schools of Domestic Science, Nursing, Midwifery in Baghdad. It has been proposed that instruction in the state vocational schools should be of such a standard that graduates could proceed at once to the relevant higher institutions. Other vocational establishments are the Iraq State Railways workshop training school in Baghdad and the IPC's technical training centre in Kirkuk.

873 An Institute of Fine Arts in Baghdad gives instruction in music, painting, sculpture, and drama and trains teachers in most of these subjects.

873 217 *Department of Antiquities.* The Department of Antiquities maintains an extensive programme of excavation, restoration, research and publication and has gained recognition for its work in international academic circles. It controls five museums in Baghdad, one each at Samarra and Babylon, and has recently opened one in Mosul.

Economic Survey

651 439 433 The greater part of Iraq's national revenue will soon be drawn from her oil, which represents an important fraction of the world's supply. Her general economic organization is nevertheless agronomic. Agriculture and animal husbandry practically suffice for her internal requirements of foodstuffs and provide, after oil, most of her exports.

135 Apart from oil, raw materials are sparse. There are deposits of salt, low-grade bituminous coal, gypsum, and sulphur and, in more limited quantities, of potassium nitrate, crystal quartz, sandstone, and dolomite. Building stone is found only in the 339 342 hill districts; in the alluvial plain mud and reeds are the common building materials of the poor, but houses of locally made burnt bricks are common in the towns.

185 652 [511] In 1950 a Development Board was established with the function of drawing up and, after parliamentary approval, executing a general economic and financial plan for developing the country's resources and raising the standard of living; it was to include but not be limited to projects for water conservancy, flood control, irrigation, drainage, industry, mining, and improvement of river, land, and air communications. For the execution of its programme the Board has been allocated 70 per

3:Royal Institute of International Affairs U-4 (no date)1954 M1 Middle East
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alluvial plain of the centre and south, where agriculture depends on the water of the Tigris and Euphrates for irrigation by pump, flow, or natural inundation. In the first region rainfed winter cereals predominate, with millet, maize, sesame and other summer crops grown as subsidiaries where irrigation is possible. Kurdish mountain crops include tobacco and grapes. In the central canal zone (Faluja–Baghdad–Diala) wheat and barley are the principal winter crops; summer crops include millet, maize, sesame, and the produce of market gardens near Baghdad. From here southward barley and rice predominate, with a great concentration of palm groves in all the riverain land, especially around Basra on the Shatt al-Arab. The deserts of west Iraq afford extensive grazing after the winter rains.

Cultivation is based traditionally on the following system. In the south, either half the land is left fallow and half tilled each year, or half is sown with a summer crop, half with a winter. In the north the land may be continuously cropped for two or three years, and then left fallow for the same period. The use of artificial fertilizers is practically unknown, but the land is sometimes manured by allowing shepherd tribes to pasture their flocks on fallow ground.

Although the vast majority of agricultural implements employed are still traditional and primitive, modern machinery is being imported steadily. A high target has been set, especially since the war, and Government service stations have been established. In 1950 imports were as follows: tractors 166, ploughs 146, cultivators 26, combines 98, threshers 1, grain drills 21, disc harrows 14. Oil pumps for irrigation are even more in demand than tractors; in 1949–50 there were 3,600 in use, with an average horse-power of 36.

The agricultural development of the country is organized by the Ministry of Agriculture, which contains departments for plant breeding and protection, horticulture, forestry, agricultural machinery, animal husbandry and veterinary services.

Crops

The principal crops, with their production in 1950 in thousands of metric tons, are *Winter*: barley, 851; wheat, 520; lentils, 6; vetch, 3·5; linseed, 0·2; *Summer*: rice, 242; cotton, 25; sesame, 10; maize, 21; millet 19; green gram, 12; tobacco, 3 (purchased by Government Tobacco Monopoly); dates, 250.[1] Of the two most important crops, barley and dates, the former is grown mainly in the northern plains and the *liwas* of Kut, Muntafiq, Hilla, and Diwaniya in the irrigated zone. With a

[1] ibid. p. 146.

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yield of nearly twice that of wheat, it is more popular with farmers. In normal years Iraq grows sufficient barley to ensure an exportable surplus of some 300,000 tons. The main importers in 1950 were Holland and Great Britain.

Rice is grown mainly in the marshes of the Lower Tigris and Euphrates near Amara and Suq ash-Shuyukh and in the Hilla and Diwaniya *liwas*, especially in the marshes around Shamiya. A small quantity is grown by irrigation in the valleys of the Kurdish areas. It is sown as a summer crop for harvesting between September and November. Its yield and price are usually higher than those of wheat or barley, but it is more extravagant of water and its cultivation is therefore restricted by law (1932). Before the war there was a small exportable surplus, but exports in recent years have been confined to limited amounts of the inferior qualities.

Dates. Iraqi dates constitute four-fifths of the world's production; the Government has a special interest in their cultivation and marketing. The Shatt al-Arab area above Basra, where growing, packing, and marketing are managed by a Date Board representing all interests, has 18 million[1] trees; the other main producing area in Iraq is on the Euphrates upstream from Nasiriya. Date-palms need a plentiful supply of water, but its quality and that of the soil is less important. Some 350 varieties of date are said to be grown in Iraq, of which only four are usually exported in quantity. Total annual production in normal times averages about 288,000 tons; of this about half is exported and half consumed within Iraq, either as food—dates are a staple item of diet—in natural form or as date syrup, or as raw material for the spirit industry. Of the by-products, the fibrous trunk is used for rope-making and the powdered stone for cattle fodder. Selection and packing for export are improving greatly under the supervision of the Government Date Board. The main importers of Iraqi dates were, in 1950, India, the United States, Egypt, Great Britain, Canada, and Pakistan.

Forests

The forests of Iraq, covering an area of 18,000 square kilometres, are of variable density. They were at one time far denser and more extensive, but have been and are still being reduced by shifting cultivation, fires, and uncontrolled cutting and grazing. The Forestry Department of the Ministry of Agriculture is undertaking a programme of conservation and afforestation, which will safeguard the soil, increase timber and

[1] The official figure; the IBRD report gives a figure of only 9·7 million.

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Tigris, completed in 1939; both of these control the flow of water and serve extensive irrigation schemes. In 1952 8 million acres of land were under irrigation—five times the area in 1918; in 1949–50 3,600 pumps were in use as against 143 in 1921. Two more major projects are in process of execution: the first on the Euphrates, for which the Habbaniya Flood Relief and Storage Scheme has just been completed, and a barrage across the river at Ramadi is awaiting construction; the second for the Tigris, whose waters will be drawn off into the Wadi Tharthar as a means of flood prevention. Cultivation will be increased by dams at Darband-i-Khan, Bakhma on the Diala, Dukhan on the Lesser Zab, and possibly at Bakhma on the Greater Zab, the first also serving for flood control. Schemes of lesser construction and extension are also being planned and executed for southern Iraq. In all, the Development Board has allocated nearly 53½ million dinars for projects of irrigation and flood control during the years 1951–6, of which 4 million dinars are devoted to drainage.

Land Tenure and Conditions of Cultivation

The system of land tenure and the conditions of cultivation are responsible for a further major problem in Iraqi agriculture. There is very little peasant proprietorship. Much of the land is held on various terms by Arab tribal shaikhs and Kurdish aghas (barons) or by wealthy townsmen, who divide their land in small plots among sharecroppers, to cultivate under the supervision of their agents for a return which may be as little as 30 per cent of the yield. Of the area covered by cadastral survey, 67 per cent is held in holdings of over 1,000 dunams and 24 per cent in holdings of over 10,000 dunams. Agriculture remains, on the whole, primitive and wasteful in tools and technique because of the lack of interest, on the part of the landowners, in organization and development and because of the ignorance, poverty, and lack of security or incentive—since the landlord secures the advantages of all improvements—of the cultivators. This backwardness is illustrated by the generally low yields. The disadvantages of feudal and absentee land ownership have been perpetuated by the land settlement of the last fifteen years, which, by tending to confirm the existing procedure, has made reform more difficult of fulfilment. The establishment of large farms worked directly by their owners with modern machinery is usually prevented by the almost total absence of a class of farm labourer working for cash wages. The expansion of the cultivated area, particularly in south Iraq, is hampered by the sparseness of population. Labour is specially scarce at harvest

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time, which, prolonged by primitive methods, may interfere with or even prevent autumn tillage and sowings. Because of the low density of population, an improvement in the water-supply of a given area in the irrigated zone usually causes a shift of population from less favoured areas, which consequently go out of cultivation. This tendency is greatly increased by the unstable nature of the rural population, a great part of which have settled to cultivation within the last century and have no lengthy attachment to their locality. Political circles are alive to the need for reform, and recently an attempt has been made to establish small-holders on lands newly introduced to irrigation (for example, on the Abu Ghuraid and Dujaila canals), and to establish co-operative organization. In 1951 a law was passed for the distribution of state land in parcels of varying size to selected settlers, up to 20 per cent of each area to be allocated to graduates of agricultural schools and former members of the police and army, and up to 25 per cent to civil pensioners and unemployed school graduates. An Agricultural and Industrial Bank, formed by the Government in 1936, contributes to the welfare of small landowners by providing cheap credits, though its resources are inadequate for the need.

Livestock

Raising livestock is of major importance both in the internal economy of the country, by providing food, transport and traction, and raw material for essential manufactures, and also in foreign trade. In the period 1948–50 livestock and their products—wool, hides and skins, intestines (casings)—accounted for about 13 per cent of Iraq's total exports excluding oil.

Most of the rural and much of the urban population depends to some extent on animal husbandry for a living, but methods have hitherto been mostly primitive and unsystematic, being semi-nomadic and divorced from crop-raising, with little attempt on the part of the owners to supplement natural feeding except in winter, or to improve the breed or combat disease. Quality and productivity are consequently low. The Government Department of Animal Husbandry, however, is experimenting to improve the breed of cattle, sheep, and mules and the Government controls the importation of animals to safeguard the native stock from diseases from which it is at present free, such as rinderpest and contagious pleuro-pneumonia. By irrigation, water conservation, and control of pasturage a more permanently settled system could be evolved, integrated more closely with the production of crops.

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Oil Industry

Petroleum concessions covering most of Iraq are held by IPC and the associated Mosul and Basra Petroleum Companies (MPC and BPC).[1] The three concessions are all for seventy-five years, from 1925, 1932, and 1938 respectively. They initially provided for the payment of dead rent until oil was produced and thereafter for royalties at the rate of 4*s.* gold per ton of crude oil exported. A new agreement, of 3 February 1952, made retroactive to 1 January 1951, provides that the Iraq Government shall receive 50 per cent of the companies' profits from their operations in Iraq before deduction for foreign taxes, part of the half share consisting of oil in kind (12½ per cent of the net production of each of the companies). In all circumstances except those of *force majeure* the Government's total income from the companies' operations is not to be less than 25 per cent of the seaboard value of all crude oil exported by IPC and MPC, plus 33⅓ per cent of the seaboard value of crude oil exported by BPC; the Government's income is further guaranteed at not less than £20 million sterling per annum during 1953 and 1954 and not less that £25 million during 1955 and subsequent years. Should circumstances of *force majeure* impose a suspension of oil production in the country, the Government will receive from the companies unconditionally a minimum annual revenue of 25 million for two years. In addition, the companies guarantee to produce and dispose of minimum quantities of crude oil annually as follows: IPC 20½ million tons, MPC 1½ million tons as from 1 January 1954, and BPC 8 million tons as from 1 January 1956. This replaces the previous undertaking that IPC should dispose of a minimum of 3 million tons per annum and MPC and BPC a minimum each of 1 million tons per annum. The approximate oil revenues forecast by the Iraq Government on the new basis for the years 1953–5 inclusive are respectively 45 and 59 million dinars.

Oil was struck for the first time in Iraq in 1927, near Kirkuk, and by the end of 1934 IPC exported crude oil through two 12-inch pipelines, each of 7 million tons' annual capacity, to Tripoli (530 miles) and Haifa (617 miles) on the Mediterranean coast. In 1949 a 16-inch pipeline of 4 million tons' capacity was opened to Tripoli. In consequence of the Palestine conflict work on a similar pipeline to Haifa stopped short at the Palestinian frontier; for the same reason the Iraq Government closed the 12-inch Haifa line, which has since remained disconnected at the

[1] For the location of concession areas, the length of period of the concessions, and the respective share holdings of the parent companies, see Appendix IV, pp. 568–9 below.

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315 frontier. A 30–32-inch pipeline of 14 million tons' capacity was
433 opened to Banias in Syria (560 miles) in 1952.

In the MPC concessionary area exploration and drilling were carried out before 1931, but it was not until after the Second World War that oil of certain commercial value was discovered and produced, at Ain Zala, north-west of Mosul. In 1952 the field was linked by a 12-inch pipeline to the IPC pipeline system, to permit the export of its crude oil to the Mediterranean coast.

In the BPC concessionary area exploration began in 1939 and, when resumed at the end of the war, was made more effective by the application of new geophysical methods. A field producing oil of good quality was developed in the area of Zubair, the average depth of the wells—some 11,000 feet—being greater than in any neighbouring Persian Gulf oilfield and four times greater than at Kirkuk. Oil is carried the seventy-four miles from the field to a new oil port at Fao, where oil was first shipped in December 1951, through a 12-inch pipeline; a second pipeline, of 24 inches, was completed in 1953 to cope with the company's increased production programme under the terms of the 1952 agreement.

433 Production of crude oil for 1952 (the first year of MPC and BPC production) was as follows: Kirkuk (IPC) 15,553,000 tons, Ain Zala (MPC) 270,000 tons, Zubair (BPC) 2,238,000 tons.

471 The area of eastern Iraq excluded from the concessions of
433 these three companies has been developed by the Khanaqin Oil Company, a subsidiary of AIOC, on the basis of agreements
382 made in 1925 and 1926. The output of the company's refinery near Khanaqin, together with imports from Abadan, provided Iraq's internal requirements of petroleum products. In accordance with an agreement ratified in 1952, the Iraq Government has bought the refinery, the company undertaking to operate it for ten years and, if requested, to operate also the new government refinery near Baghdad which is to replace it; after the Khanaqin refinery is closed the company will retain its production area on the same terms as those of the IPC 1952 agreement, conditional on exporting an annual minimum of 2 million tons of crude oil.

The government refinery at Daura near Baghdad, on which work started in 1952, is designed to produce a million tons of refined petroleum products per annum, a figure well in excess of the present requirements of the country. Meanwhile a small refinery of some 175,000 tons annual capacity has been erected
[439] at Basra to help make good the deficiency caused by the cessation of petroleum imports from Abadan.

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Factory Industry

Iraqi factory industry is mainly directed to processing agricultural products and manufacturing building materials and consumer goods for the local market. Modern industry is of recent introduction and is so far little developed, though a considerable expansion is planned; its products differ little in kind from those of the small enterprises which preceded it. Legislation for the encouragement of industry, passed in 1929 and modified in 1950, remitted customs duty on imported machinery and materials and granted exemption from income and property tax and the use of rent-free state land to predominantly Iraqi-owned industrial establishments with machinery valued at ID5,000 or over which used primarily raw materials available in Iraq or produced goods imported in considerable quantities. In spite of this encouragement there has been a lack of skilled manpower and experience on the one hand and initiative and private capital on the other. The foundation of a state industrial bank in 1946, by helping to supply the capital, has provided a genuine stimulus. The International Bank Report[1] gives the following figures (which have since increased) for what might be called modern industrial plants only: 2,000 persons employed (as compared with 11,500 in the oil companies), out of a total of some 45,000 engaged in industrial undertakings of all types, which are predominantly small workshops; total capital investment, about ID4 million; annual gross income, about ID3 million. At the end of 1951 there were eighty-seven manufacturing concerns which benefited from the law for encouraging industry. The larger factories are electrically run, taking their power from the public supply or, in some cases, generating their own.

The principal industries are cotton ginning, cotton and wool spinning and weaving, rayon weaving, dyeing, milling, vegetable oil extraction and soap manufacture, brewing and distilling, date packing, tanning, and the manufacture of date syrup, cigarettes, footwear, cement, and bricks, for all of which there are modern as well as more primitive plants. There are also works for manufacturing light steel products and aluminium ware.

Small enterprises include bakeries, confectioneries, and establishments for food-processing, ice manufacture, carpentry, processing local marble, battery-charging and repairs to electrical apparatus, motor vehicles, and agricultural equipment. Projected enterprises include three sugar factories in north

[1] *Economic Development of Iraq*, p. 148.

3:Royal Institute of International Affairs U-4 (no date)1954 M1 Middle East
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433 Iraq each capable of manufacturing 10,000 tons of sugar per annum from sugar beet to be grown locally, a bitumen plant, and a small steel plant. In addition the Government is investigating the recommendation of the International Bank mission[1] for the erection of a chemical plant at Kirkuk to produce ammonium sulphate fertilizer, cement, sulphur, and carbon black. The mission has also recommended plants for manufacturing bone-meal fertilizer, date-packing crates and motor-car tyres, and for batching concrete, converting steel scrap into building components, and possibly for remelting glass.

Labour

466 Conditions of work and employment are regulated by a
647 Labour Law (1936–46), which so far relates only to 'workmen'
657 (a term requiring more precise definition) in industrial undertakings. It is in process of revision and extension. Its application is supervised by the Department of Labour and Social Security, which maintains a small corps of inspectors. This department, advised by foreign experts, proposes to experiment with employment exchanges, is starting to compile labour statistics, is undertaking a programme of housing for labour, and is examining plans of social security, for which the existing Labour Law already contains some provision in the form of indemnities on discharge, paid sick and confinement leave, and compensation for injuries. Safety and sanitary working conditions are covered generally by the Labour Law and made obligatory in greater detail by a Workshops and Factories Regulation (1937). In January 1953 it was stated that new provisions, for eventual inclusion in the new Labour Law, had been drafted for establishing wage boards, regulating disputes, and determining the rights, obligations, and administration of trade unions, which are not clearly defined in the existing Labour Law. The latter grants industrial workers the right to establish associations to safeguard their special interests, strengthen the spirit of co-operation, effect educational, cultural, hygienic, social, and moral improvements, and develop Iraqi industry. A few trade unions exist; their membership is small and activity slight. Others have been suspended for subversive activity. The movement is still rudimentary.

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Communications

496 *Railways.*[2] The railways constructed by the British forces during the Mesopotamian Campaign eventually formed the

[1] See above, p. 275.
[2] This section is based on the *Directory of Railway Officials and Year Book*, 1952–3.

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Unlike Egypt, Iraq is a sparsely populated country relative to its land resource. Yet we find there the same conditions of landlessness, and low levels of living among the peasant folk. More serious still, we find in that country a great agricultural potential which is threatened by the prevailing destructive system of land tenure.

This fertile land of the ancient Tigris and Euphrates rivers has a total potentially cultivable area (mostly by means of expanded irrigation) of some 25 million acres. The present area that is under cultivation each year, however, is less than 6 million acres. There is no doubt that capital and technical aid from the West will make it possible for Iraq to realize this tremendous potential. The serious question, however, is whether development will be attempted on the present shaky foundations of feudalism, absentee ownership, and sharecropping, or on the sounder and more stable foundations of a thriving rural community that is emancipated through its ownership or control of the land. The answer, one way or the other, will be of grave consequence to the future of Iraq.

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The following is a brief summary of the situation as it now exists. Less than 0.5 percent of the land is owned privately in fee simple. About 36 percent is state domain which has been leased out more or less permanently to individuals. Over 58 percent is held directly and fully by the state, and is leased out on a yearly basis. These figures indicate clearly that the fate of the land resource has not yet been fully decided as in the case of Egypt. The major portion of it is still in the hands of the state, which could dispose of it either in favor of the landless cultivator and tribesmen, or in favor of the absentee owner and the tribal chief.

The land that is now under cultivation (whether privately owned or leased from the state) is predominantly in the hands or under the control of the semi-feudal tribal chief and the large owner from the city. In either case, absenteeism prevails. The peasants, consisting of village folk and semi-settled tribal people, are in the majority of cases landless sharecroppers. They raise crops and receive a share ranging from 20 to 50 percent of the produce, depending upon whether they supply the seed, the

25: Warriner S-5 (no date 1948 MI Middle East
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which now amounts to one million acres. More might be added by water storage schemes. At present several large new schemes are under consideration. These involve flood control by the construction of the Bekhme dam on the Great Zab, and an extension of the Habbaniya reservoir. In addition to the Bekhme dam a scheme for flood irrigation in the Wadi Tharthar is being considered. A survey commission is now preparing a report on these developments, but so far no estimates have been made of the area of land likely to be brought into cultivation.

At present there is no shortage of labour. The population is small in relation to the area cropped, but it is growing rapidly. In 1931, according to Dowson, the total population was 2,824,000, of which 2,246,000 were estimated to be rural, including 895,000 settled population and 1,351,000 still living in tribal conditions.[1] Estimates for 1943 put the total population at 4,500,000, of which the rural population was 3,500,000. Some regions, Basra, Karbala, Dulaim, and Muntafiq are densely settled, while others, chiefly in the north, Mosul, Erbil, Kirkuk, are settled very sparsely. The area of cropped land per head is 2 acres, and the area of cultivated land perhaps as much as 4 acres.

LAND TENURE

It is clear that Iraq has greater prospects of agricultural expansion than any other Middle East country. But to the development of these potentialities the greatest obstacle is land tenure. Sir Ernest Dowson, in his classical report on the subject, says: 'The injurious effect of the existing welter of uncertainty and dispute upon both the agricultural prosperity of the country and public order, can hardly be exaggerated. Every one directly or indirectly concerned with agriculture in el 'Iraq must know many individual cases in which the development and use of the land has been gravely obstructed by the widespread insecurity and confusion of rights. Indeed the most diligent inquiry would be unlikely to reveal anywhere any appreciable number of holdings, large or small, held in undisputed possession and free from hampering and conflicting claims. It needs no great effort of the imagination to appreciate the blighting effect of these unhappy conditions prevailing throughout the country, upon the

[1] Sir Ernest Dowson, *An Inquiry into Land Tenure and Related Questions* (Letchworth Garden City Press for the Iraqi Government, 1932), p. 12.

29:Dunn S-4 (1952)1952 MI Middle East
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The program is undoubtedly ambitious. It requires a rate of progress unprecedented for a country which for many centuries remained virtually static and which over recent decades has developed at a relatively slow pace. There is no assurance that the program can be carried out over the next five years. Yet the Mission thought it important to set up targets, even ambitious targets, toward which the country can strive. If successful, the program will bring about a profound economic and social transformation, with far-reaching repercussions.

The International Bank concludes that the country will need no further foreign loans except possibly to meet part of the hard currency needs.[34] The oil revenues will be received in the form of sterling. However, under a new agreement, the United Kingdom has undertaken to furnish sufficient dollars against sterling to cover Iraq's essential needs.

The International Bank in 1950 already had loaned $12.8 million to Iraq, primarily for flood control, irrigation, and road construction. Apparently the Bank is willing to consider further loans, but the Iraqi are not interested as long as the oil revenues continue and they are able to get sterling converted into dollars.

TECHNICAL ASSISTANCE

A number of organizations are providing technical assistance to Iraq in its development program, notably the United States Point Four Program and the United Nations' Food and Agriculture Organization.

Point Four began its program early in 1952 in such fields as cotton agronomy, farm machinery, agricultural extension and vocational education, irrigation, entomology, rural health, sanitation, and industrial development. About 25 Americans have been employed, and the number may be doubled by the end of the year. Most of the Point Four funds go for salaries; the costs of tools and materials are assumed by the local government. The specialists in Iraq obviously were chosen for their competence, practical experience, and their interest in the assignment. They are anxious to develop the most desirable means of approaching the problem.

The Food and Agriculture Organization has about 11 specialists regularly employed in the country in such fields as soils, cooperatives, bacteriology, veterinary science, nutrition, agricultural statistics, farm mechanization, and home economics. The program may be extended to cover agricultural research, extension, underground water and drainage, forestry, and fisheries.

The FAO operates almost entirely at the government level; Point Four seeks to go beyond government planning to the grass roots.

INDUSTRY

The people of Iraq, in common with their neighbors of the Middle East, live almost entirely by agriculture. About 80 per cent of the population earns its living directly from the soil, and most of the others indirectly.[35] Industry is still relatively undeveloped. Apart from the oil industry, which employs about 12,000 people, probably not more than 2,000 people are employed in what are called modern industrial plants.

[34] *Ibid.*, p. 62.
[35] *Ibid.*, p. 43.

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COTTON IN THE MIDDLE EAST

PRODUCTION

• 433 Industry at present is confined largely to processing agricultural products, producing building materials, and manufacturing consumer goods—matches, soap, cigarettes, shoes, beverages, and textiles.

Conditions are favorable for further industrial development. Opportunities are abundant for producing agricultural raw materials for processing, and indications are that iron, copper, zinc, chrome, sulphur, and salt exist in commercial quantities. With plenty of oil and natural gas, fuel is no problem. Manpower is adequate, and with proper training the Iraqi workman is said to be competent. A higher level of agricultural production would create also a wider market for manufactured products.

There are a number of limitations. The lack of technical "know-how" and the lack of sufficient private capital and initiative are the most important. Much capital, particularly that accumulated from agriculture, is said to be hoarded; and the balance generally is invested in urban or rural property, which is regarded as less risky, or in commerce where investors anticipate a 471 high rate of return. It is suggested for this reason that industrial development in the immediate future will have to depend very largely upon the

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—Photo Courtesy of Technical Cooperation Administration

In most of the Middle East countries, cotton harvesting and, to a certain extent, weeding depend on migrant laborers who travel from one area to another. In Iraq, most of the members of the migrant farm worker's family walk, carrying their household goods on their heads. Only the tiniest youngsters and the oldest women ride the burros.

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initiative and financial assistance of the government.[36]

The government has been advised to encourage development of light industries: Cotton textiles, cottonseed oil crushing mills, jute mills, bone fertilizer plants, automobile tire factories, small steel mills, central machine shops, concrete block plants, possibly a paper mill, a chemical factory for making inorganic fertilizer, and possibly salt refineries.

The Mission strongly urged the government not to attempt to own or operate these new factories itself, but to encourage private capital to do so.[37] This recommendation has been followed in the main. The Industrial Bank, created with funds derived from the oil royalties, has been financing private industry in a number of fields, particularly cotton textiles and cottonseed oil crushing and refining. The outstanding exception is the new petroleum refinery being built by the government.

OIL

Oil reserves in Iraq are thought to be tremendous—at least a third of the total Middle Eastern reserves, which are reckoned at 50 billion barrels, or

—Photo Courtesy of Technical Cooperation Administration

Capacity of the Kut Barrage on the Tigris River in Iraq is almost a quarter of a million cubic feet of water per second, which makes it the largest diversion dam of its kind in the world. The dam was built by British contractors for the Iraq Government in 1939. With oil revenues now pouring into the treasury Iraq plans to build several more large-scale irrigation facilities for storage and diversion. New projects are already in progress in the upper reaches of the Tigris River system.

[36] *Ibid.*, p. 33.
[37] *Ibid.*, pp. 36-37.

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647 652 185 "We have been impressed by the ingenuity of the attempt to cover a large part of the cost of the existing centres by the voluntary contributions of the direct beneficiaries. It is clear, however, that the method of raising funds by voluntary contributions is preventing the rapid expansion of the benefits of the scheme to cover the majority of the rural population. It may therefore be desirable, as part of the land redistribution and fiscal reform of the country now in progress, to set aside a large proportion of the national revenues resulting from taxation to provide free basic services for the welfare of the fellaheen, as and when the necessary personnel and supplies become available.

"If the provision of free services is thought to compromise the principle of self-help upon which the centres have been founded, an alternative might be to maintain the existing structure of State subsidy to locally contributed funds, but at the same time to introduce the principle of compulsory membership, and individual contribution to running expenses, on a system of local option. That is to say, in each village the majority of adult inhabitants would decide whether the local contribution to the cost of a centre (which would be open to all free of cost) should be met from a graduated levy. The amount of each individual contribution would be determined on according to capacity to pay or on some other equitable basis."

OOU 42. At the meeting of the inter-ministerial committee which we attended at the close of our mission, we were invited to participate in a discussion of ways and means of ensuring that the technical advice and guidance, - which already exist in each of the departments of public service and have been created for the welfare of the community at large - are better co-ordinated and decentralized and made available more directly and more extensively to the fellaheen. A full exchange of views took place and we were happy to find that the Ministers had anticipated many of the criticisms and suggestions that had occurred to our minds.

IRAQ

(Visited 8 - 12 January)

I

642 131 161 434 423 43. Iraq is a constitutional monarchy, with territory covering 168,400 square miles and a population of approximately 5,000,000. The country has great economic potentialities which until recently have not been adequately exploited. Income per capita does not yet exceed 30 Iraqi dinars (approximately US$84). In the past the predominance of the tribal system has impeded a redistribution of lands now recognized as necessary. The abundance of government-owned lands which will become cultivable under modern methods and extended irrigation is expected to facilitate the distribution of land on the basis of small property ownership without intermediary of tribal chiefs.

● 483 185 Iraq has large possibilities of land reclamation: i.e. the country can feed a larger population than it actually has, and there is in the near future no danger of over-population, even assuming that the death rate is lowered by various measures.

657 185 44. We were assured by one Minister with whom we had the privilege of discussing the standard of living of so many of the poorer sections of the community that the evils from which the country was suffering were well known, and that a partial explanation of many of the difficulties hitherto experienced in effecting necessary improvements was to be found in a lack of co-ordination between existing health and education

369 423 471 511 others almost for life itself. In their position they cannot help themselves, but go on generation after generation at the same poor level of living. There are no committees or councils to represent themselves or which government sources might utilize for participation in family and village development programmes.

369 433 511 Many other problems such as undeveloped village crafts and industries, lack of access roads and marketing facilities might be added. Enough has been described to indicate the great and urgent need for a broad programme for assistance to the rural population of the country. It is recognized that these are not new conditions but part of a way of life that has been characteristic of these people for centuries. The wealth and labour of the land through all these years has been for the welfare of the few who ruled. It has been only within comparatively recent years that the leaders of Iraq have become concerned about or in a position to help in the improvement of rural affairs.

B. CAUSES OF CONDITIONS

369 566 Many factors beside tradition have contributed to the present plight of the rural people. Essentially their problems stem from the lack of security on the land, the lack of financial means or credit to develop their farming or crafts and the lack of knowledge to promote their own advancement.

1. System of Land Tenure

369 423 471 The major and self-evident cause of present poverty is the lack of ownership of land and of any security under the tenant system. The tenant owns no farm or house. He must shift his farming operations or even leave the land as he is directed. Therefore, he has no base on which to build a better life or earn a better income. The small land farmer who owns his own land frequently has an insufficient amount to provide adequate income.

2. Lack of Credit

369 452 566 Credit for the small farmer or tenant is virtually unavailable. Both tenant and small owner are subject to a system of sharecropping or credit which by exorbitant rates leaves them with insufficient balance from their crops for their own subsistence. In fact some tenants receive as little as 20 to 30 per cent of their crop. Small farmers often have to forfeit their lands because they cannot pay off their mortgages and work in the employ of their creditors. Rarely it was found that a small farmer received a loan from the Agricultural Bank.

3. Poor Land Use

369 566 311 The landlord, however, does not always stand to make great profits. He loses more proportionately than the tenant during crop failures when he must provide them with food and receive no return. He loses continually from their inefficient farming methods, their ill-health and limited ability to work and the uses to which he puts his hands.

4. Lack of Knowledge and Training

369 871 212 Especially important among these reasons for poverty is lack of training and information. The rural people are for the most part without education in its broadest and most fundamental sense. First, there is a lack of ability to read and write To obtains more info mations.

63:Simmons et al G-5 (1941-1951) 1954
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SUMMARY

Iraq encompasses the valleys of the 131
Tigris and the Euphrates rivers, and is as- 161
sociated historically with Mesopotamia, the 433
home of one of the oldest civilizations on record. It has been an independent sovereign state since 1932. The population, which was estimated at 4,799,500 in 1947, is 95 per cent Moslem and predominantly Arab. Extensive petroleum resources and date cultivation contribute to the wealth of the country, which is still relatively underdeveloped in other respects. The public health 744
activities of the Iraqi government are centralized in the Ministry of Health, with headquarters in Baghdad. The Ministry is responsible for the maintenance of preventive and curative services, which are carried out in the provinces through subordinate provincial organizations. Municipal departments exist in Baghdad and the principal cities, but in other areas the enforcement of sanitary regulations devolves upon the government officers. In 1950, there were 82 743
civilian hospitals in the country, with an aggregate capacity of 4,901 beds, or slightly more than 1 bed per 1,000 population. Almost one half of the total beds were located in the Baghdad area. Approximately 82 per cent of the hospitals are supported by the government. Also in 1950, 433 dispensaries were functioning in various parts of the provinces, 403 under the jurisdiction of the government health authorities.

The water supplies in the towns and the 312
villages of the alluvial plain are derived from rivers, canals, lakes and wells; in the northern highlands, from streams, springs and wells. All the urban supplies are obtained from rivers, except in Erbil and Sulaimaniya, where spring sources are utilized. The water supplies of the larger cities are treated, but those in the rural areas are unprotected and often polluted. There are 364
no sewerage systems. In the cities, cesspits and septic tanks are employed for the disposal of sewage; in the rural villages, the means are more primitive. The dietary 000

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64: Shwadran S-4 (no date) 1955 MI Middle East
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progress, discouraging both to the educators and to the Iraqi people, reflects on the possibilities of development, which in the final analysis depend on the general educational level of the population. To be sure, in the period 1930-1950 the number of schools rose from 262 to 1,100, the number of pupils from 32,750 to 175,000, and the number of primary school teachers from 1,325 to 6,588; nevertheless, out of about 750,000 children of school age only 175,000 were in schools; the percentage of drop-outs as the children advanced to the higher grades was so large as to cause real alarm. The facilities and quality of technical and vocational education were woefully deficient, and adult education was almost completely neglected. As to the quality of the educational program, the Mission stated: "Educational concepts are far too narrow and too little related to everyday problems of living." But what was most alarming was the fact that as late as 1951 about 90 per cent of the total population was still illiterate.[10]

Though possessing so much land, so much water, and considerable revenue from oil, Iraq's standard of living was fairly low. Annual per capita income was estimated in 1949 at about $84 and not much higher in 1953.[11] This compared with $140 for Lebanon, $100 for Syria, $125 for Turkey, $100 for Egypt, and $389 for Israel.

Industrial growth advanced at a very slow pace. In order to stimulate the establishment of industry, the Government passed a law in 1929 granting tax relief and other concessions to those who would develop industrial projects, but almost twenty years later the United States Department of Commerce reported that the development of manufacturing industries was still in the embryonic stage.[12] In 1949 it was reported that in spite of the impetus given to local production by the shortage of import goods during the war, Iraq's industries were still underdeveloped.[13] In 1951 the International Bank Mission reported that industry was little developed; that exclusive of those employed by the oil companies, 60,000 workers were engaged in

[10] International Bank, *Iraq Mission Report*, 62-63; "The Economic Development of Iraq," *The Times Review of Industry* (London), Sept., 1953, 93.
[11] U. N., *Review 1949-50*, 12; "The Economic Development of Iraq," *The Times Review of Industry*, Sept., 1953, 93.
[12] U. S., Dept. of Commerce, *International Reference Service*, Dec., 1948, 3.
[13] Great Britain, *Iraq*, 16.

64: Shwadran S-4 (no date) 1955 MI Middle East
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industrial and handicraft production, but most of those were employed in small undertakings, with only about 2,000 working in what might be classified as modern industrial plants.[14] The United Nations reported in 1951 that industry continued to play a very minor part in the Iraqi economy and that the gross output was estimated at not more than ID 3,000,000.[15]

The general industrial and economic situation could perhaps be gauged by the consumption of oil and oil products, especially since the country had these supplies in such abundance. In 1929, internal oil consumption, including refinery needs, was 70,000 metric tons; in 1937 it had risen to 132,000 tons, but in 1950 it was only 929,000 tons. Excluding refinery needs, consumption in 1937 was only 88,000 tons; in 1949, 518,000; in 1950, 619,000; in 1951, 635,000; and in 1952, 690,000.[16]

The level of civic responsibility and national consciousness is illustrated by the taxpaying practices of the Iraqis. The first income tax law was enacted in 1927, but not before considerable modifications had been made and a long time had elapsed did the Government begin to receive any substantial revenue. The following table shows the annual revenue from income tax, the total revenue, and the percentage of income taxes in the total revenue:

Table IV. *Iraq, Percentage of Income Tax in Total Revenue*

Year	*Income Tax (in I. D.)*	*Total Revenue (in I. D.)*	*Percentage*
1943	1,016,082	18,810,000	5.4
1944	1,293,089	20,700,000	6.2
1945	1,149,394	20,790,000	5.5
1946	1,032,054	25,520,000	4.0
1947	1,081,379	23,510,000	4.6
1950	2,354,000	31,579,000	7.5[17]

[14] International Bank, *Iraq Mission Report*, 2, 129. Another estimate gives the total number of industrial workers in 1950 as not more than 72,000, including those employed in the oil industry. "The Economic Development of Iraq," *The Times Review of Industry*, Sept., 1953, 93.

[15] United Nations, Dept. of Economic Affairs, *Review of Economic Conditions in the Middle East 1951-52* (New York, 1953), 43. Henceforth cited U. N., *Review 1951-52*.

[16] U.N., *Review 1951-52*, 62; U. N., *Summary 1952-53*, 57; Anglo-Iranian Oil Co. Ltd., *Annual Report and Accounts for the Year ending 31st December 1952*, 20;—*Annual 1953*, 19.

[17] Great Britain, *Iraq*, 22; U.N., *Review 1949-50*, 78; *Annual Report of the National Bank of Iraq, July 1949-December 1950*, 53.

64: Shwadran S-4 (no date) 1955 MI Middle East
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The general progress of the Development Board under the existing conditions was tolerably satisfactory, but the long-range objectives and the conditions necessary for their realization were not appreciated either by the people or by the politicians. In 1953 the Development Board Law was amended and a new Ministry of Development was created. Though the Development Board was retained, the execution of the development plan was placed under both the Board and the Ministry. The Minister of Development became an additional *ex officio* member of the Board, responsible to Parliament for the conduct of his Ministry and of the Board. The original intent of the law to remove the Board from the vagaries of political change was thus negated. Moreover, because of the general educational and technological level of the population, the Development Board found itself in the unusual, if not unique, position of not being able to spend the constantly increasing revenue.[26] The Board consequently resorted to lending its funds to other Government agencies not concerned with long-range development, and a goodly portion of its income was diverted to other regular expenses.[27]

Despite inherent limitations and basic difficulties, the awareness of the people and the Government that the oil revenue could be used as a means of advancing the development of the country has had some positive and some negative effects on Iraq's growth. One might note a general tendency to depend exclusively on oil income, to the exclusion of all other resources of governmental and economic operations. For obvious reasons the Government adopted a policy of reducing taxes[28] in view of the gigantic income from oil.[29] Such a policy, combined

[26] In 1952-53, ID11 million of the Board's allotment remained unspent. *The Manchester Guardian*, Oct. 6, 1953.

[27] For a description of the various projects, see U.N., *Final Report of the Economic Survey Mission*, I, 71-74; International Bank, *Iraq Mission Report*, 183-457; Norman Burns, "Development Projects in Iraq," *The Middle East Journal*, IV, Summer, 1951, 362-370; Fuad Jameel, "Development Projects and Economic Progress in Iraq," *Al Aswaq al Tijariya*, Apr. 3, 1954; Mohammed Zaki Abdul Kareem, "Beehive of Construction," *Al Aswaq al Tijariya*, June 12, 19, 26, July 3, 1954; *Foreign Commerce Weekly*, Dec. 13, 1954, 3.

[28] In 1953 the Government lifted the consumption tax on fresh fruits and vegetables, increased the reductions in the real estate tax and announced substantial cuts in customs and excise taxes. Jameel, "Development Projects," *Al Aswaq al Tijariya*, Apr. 3, 1954.

[29] The 1952-53 total Government budget amounted to $134,000,000, of which about 42 per cent came from direct oil revenue (only 30 per cent of total income, the other 70 per cent being assigned to the Development Board). U.N., *Summary 1952-53*, 60.

64: Shwadran S-4 (no date) 1955 MI Middle East
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with enormous spending, brings in its wake a host of problems and dangers: inflation, a great strain on a primitive economy, shortages of human resources (civil servants, teachers, doctors, engineers), and the overburdening and eventual breakdown of transportation and communications. Nevertheless, progress was registered. Many irrigation and drainage projects were undertaken, and some were completed; a beginning of agrarian reform and rehabilitation through such projects as Diyala was made.[30] In 1952 the United Nations reported that a slight expansion in industry had been achieved and a basis for more rapid development laid. Capital investments in major industries rose from a cumulative total of ID5.18 million in 1948-1949 to 5.84 million in 1951-1952; the value of output rose from ID 1.4 million to 4.4 million, and the number of workers increased from 1,650 to 4,550.[31]

In its report for the fiscal years 1952-1953 the Development Board stated that considerable progress had been made on some of the construction and irrigation projects although it had not used up its revenues and had granted ID6.3 million to municipalities and Government departments to carry out new programs.[32]

The impact of the oil industry on Iraq was not as great as it could have been. In spite of Government effort, and in spite of the belief held by some governmental leaders that it was an unconditional, integral part of the overall development program, industry made very little progress. There have been some advances in agriculture, but not as much as hoped for. There exists a serious danger that after the irrigation projects are completed and the land available for cultivation increased, unless the Iraqi peasant is educated—psychologically as well as technically—to utilize the additional acreage effectively and constructively and to keep the irrigation machinery in working order, the enormous expenditures may well have been wasted. Neither will the new hospitals and new school buildings be able to fulfil their proper functions unless there are enough trained doctors, nurses and teachers with a social consciousness and a deep-seated and genuine desire to help the impoverished,

[30] Burns, "Development Projects in Iraq," *The Middle East Journal*, V, Summer, 1951, 362-366.
[31] U. N., *Summary 1952-53*, 22.
[32] *Al Zaman*, July 24, 1953.

67: United Nations S-5 (1945-1954) 1955 MI Middle East
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Chapter 4

IRAQ

Developments to the End of the Second World War

433 At the end of the First World War, when Iraq was constituted as a State, 312 very little had been done to develop its economy. An over-all irrigation 315 programme had been drawn up, and the Hindiyah barrage had been built on the Euphrates and work begun on the Habbaniyah escape channel, but the outbreak of war had interrupted progress. The war had also prevented the exploitation of oil deposits by the Turkish Petroleum Company, formed in 1914. In the nineteen twenties, development was started. The digging of canals, the building of minor [496] works and the installation of irrigation pumps resulted in a substantial increase in cultivation, and there was also a slight improvement in farming methods. Railways were extended and other means of transport improved.

436 Further steps were taken in the nineteen thirties. In 1932, instead of the 312 rupee, the Iraqi dinar became the unit of currency. The Kut barrage, on the 433 Tigris, and various canals, regulator dams and minor projects were completed. The establishment of a few cotton gins, textile plants and other factories 652 producing consumer goods marked the beginning of modern industry. A government- 423 owned Agricultural and Industrial Bank was set up. A land settlement law was passed in 1932 and amended in 1938, and work on land settlement began in 1933.

471 Of more importance to the Iraqi economy was the development of the petroleum 382 industry. In 1925, the Iraqi Petroleum Company, a successor to the Turkish 315 Petroleum Company, was granted a concession, and in 1927 the Kirkuk oilfield was 651 discovered. By 1934, that field had been brought into production, and two 652 pipelines, with an annual capacity of 2.2 million tons each, had been laid to the Mediterranean coast; these developments required an investment of $62 million. Exports of oil began that year. The royalties and other revenues from petroleum accruing to the Government greatly increased its receipts and made it possible to augment expenditure on economic and social development.

433 During the Second World War Allied troops stationed in Iraq spent large sums on local purchases; from 1941 to 1944 inclusive, these expenditures totalled £64 million. There was a corresponding increase in national income, expressed in monetary terms, and prices rose considerably, the wholesale price index reaching a peak of 590 in 1943 (December 1938 to August 1939 = 100) and standing at 503 in 1945. This addition to national income and rise in prices stimulated agriculture; the area under cultivation was considerably extended, by irrigation and greater use of farm machinery, and although yields declined, total output increased somewhat. The greater part of the Allied expenditures was saved, in the form of sterling balances, which, in July 1947, amounted to £57.9 million. 1/

1/ National Bank of Iraq, Annual Report, July 1949-December 1950 (Baghdad, 1951).

67: United Nations S-5 (1945-1954) 1955 M1 Middle East
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Post-War Period, 1945 to 1954

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In the early post-war period there was little development. Petroleum production, and the revenue accruing to the Government therefrom, remained at the pre-war level or below and agricultural and industrial output showed little change. The deficit in the balance of payments was met by drawing on foreign exchange reserves. The Government budget showed deficits, and little was spent on capital works. By 1950, however, the situation began to change. Output of petroleum increased rapidly, and new agreements with the producing companies greatly raised government receipts. With the technical and financial assistance of the International Bank for Reconstruction and Development, a large-scale development plan was drawn up which is at present being carried out. The completion of the various projects under way should result in a considerable increase in the national income.

Production

Agriculture

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The increase in area and output achieved during the Second World War was generally maintained during the post-war period (see table 26). In recent years, there seems to have been a further extension in acreage, owing to increased irrigation and greater mechanization. 1/ Yields have continued to fluctuate in response to weather conditions, floods and attacks by locusts and other insect pests; total output has therefore varied considerably from year to year. The experience of recent years, notably that of 1952, has, however, shown that, thanks to the co-operation of other Middle Eastern and foreign governments, locust attacks cause much less damage than they did formerly. Similarly, completion of the irrigation works at present under way should greatly reduce the danger of floods like that of 1954, which destroyed many crops and damaged property.

The agricultural and livestock census 2/ of 1952/53, the first of its kind, puts the total agricultural holdings of Iraq at 6,384,000 hectares, of which

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1/ The number of pumps used in irrigation rose from 2,757, with a total horsepower of 91,332 in 1945, to 4,339, with a horsepower of 167,288 in 1953 (Ministry of Economics, Statistical Abstract 1953 (Baghdad)). In addition, the construction of canals made it possible to extend appreciably the area irrigated by existing dams. Early in 1951, there were 320 combines and 750 tractors (International Bank for Reconstruction and Development, The Economic Development of Iraq, (Baltimore, 1952), page 19). In 1952 and 1953, 625 combines and 502 tractors were sold to farmers; of these over two-thirds were sold in 1953 (Statistical Abstract). There were 2,091 tractors in 1954 (Le Commerce du Levant, 11 August 1954 (Beirut)).

2/ Ministry of Economics, Statistical Abstract 1953 (Baghdad).

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Table 26. Iraq: Area and Production of Principal Crops, 1934-38, 1945, 1948 and 1950 to 1954

Crop	1934-38	1945	1948	1950	1951	1952	1953	1954
Area (thousands of hectares):								
Wheat	661	777	963	950	863	882	1,046	...
Barley	743	826	974	1,000	927	700	1,211	...
Rice	152	194	295	218	189	210	129	...
Cotton	16	...	...	32	44	40	24	...
Production (thousands of metric tons):								
Wheat	478	400	301	545	487	480	762	800
Barley	575	650	570	851	839	800	1,111	700
Rice	205	245	350	242	190	250	200	250
Cotton	2	1	2	8	6	3	4	...
Dates	260	...	301a/	305	350	370	350	...

Source: Food and Agriculture Organization, Yearbook of Food and Agricultural Statistics (Rome), Monthly Bulletin of Agricultural Economics and Statistics; agricultural census of 1952/53; Le Commerce du Levant (Beirut), 25 December 1954.

a/ 1947.

2,752,000 hectares are rainfed, 2,912,000 irrigated 1/ and 644,000 hectares uncultivable. Of the total, 2,527,000 hectares, or 40 per cent, were cropped; 2,795,000 hectares, or 44 per cent, were left fallow; 128,000 hectares, or 2 per cent, was under fruit trees and vines; 231,000 hectares, or 4 per cent, consisted of pastures; and 42,000 hectares, or 1 per cent, consisted of woodland. Double cropping is practised in a few areas.

The census showed that the area planted to the major field crops was as follows: barley 1,211,000 hectares; wheat, 1,046,000; rice, 129,000; maize, 54,000; cotton, 24,000; millet, 22,000; sesame, 22,000; tobacco, 10,000; vegetables, 45,000; others, 38,000; total, 2,601,000 hectares. Barley is to be found in most parts of the country, while wheat is grown mainly in the north, the provinces of Mosul and Kirkuk accounting for half the total area; cotton and fruit trees are grown mainly around Baghdad and in other central provinces, and rice in the south; date cultivation is concentrated around the town of Basra. 2/

1/ Of this total, 1,685,000 hectares are irrigated by flow, 1,120,000 hectares by pumps and 107,000 by water wheels and other means.

2/ The census put livestock on agricultural holdings as follows: horses, 137,000; cattle, 712,000; buffaloes, 47,000; sheep, 4,484,000; goats, 1,613,000; donkeys, 399,000; camels, 38,000; and mules, 57,000.

433 There has been little change in the crop pattern in recent years. In 1950,
311 under the stimulus of rising world prices, the area planted to cotton increased,
241 but the damage caused by pests, together with the fall in prices, caused heavy losses and led to a shift to other crops. There has also been an extension of the area planted to fruits and vegetables.

242 The Government has taken several important measures to aid agriculture. In 1952, in order to improve the quality of dates, the government-owned Iraqi Dates Association contributed 49 per cent of the capital of a company which will market the crop. In 1953, the Government appropriated funds for the building of grain silos with a capacity of 150,000 tons, in order to improve quality, since low grading depresses export prices. The Agricultural Machinery Administration rents "machinery to farmers and, in addition, is responsible for testing and demonstrating new machinery, licensing of imports and controlling the distribution of the limited supply of spare parts". 1/ The activities of the Agricultural Bank are discussed below.

423 Among the major obstacles to agricultural development has been the land
241 tenure system. The uncertainty of land titles has by now been largely eliminated by the work carried out since passage of the land settlement law of 1932. By the end of 1953, titles to 16,126,000 hectares had been settled; this represented 68.4 per cent of the area of the country, excluding the desert regions. Another obstacle is the unequal distribution of land. The agricultural census showed that there were only 125,000 holdings, with an average area of 51 hectares per holding. Of these, 24,000 holdings were under 1 hectare, 26,000 between 1 and 5 hectares, 16,000 between 5 and 10 hectares and 19,000 between 10 and 20 hectares. Thus, 85,000 holders, or 68 per cent of the total, owned about 8 per cent of the total area. At the other extreme, some 33,000 holders, with over 100 hectares each, owned some 85 per cent of the total area. The majority of the agricultural population is landless.

311 The Government has attempted to remedy this situation by settlement schemes
241 on government-owned land, which accounts for nearly two-thirds of the settled
185 area. Following a successful experiment at Dujaila, 4,284 farmers were settled, in five projects with a total area of 198,000 hectares, and by the end of 1954, 10,200 farmers had been settled on 510,000 hectares. 2/ Farmers are organized in supply and marketing co-operatives. They are given the land free of rent for ten years, after which those who have made good are granted title without charge. 3/ Further projects are under way, including the distribution of 1,125,000 hectares in Mosul province, the distribution of 100,000 hectares near Baghdad, the expansion of the Hawijah settlement and the distribution of land near Basra and along the southern Euphrates. 4/

1/ International Bank for Reconstruction and Development, The Economic Development of Iraq, page 20.

2/ The Iraq Times (Baghdad), 25 October 1954.

3/ For further details see United Nations Department of Economic Affairs, Progress in Land Reform (1954), page 105.

4/ The Iraq Times, 14 December 1954, 4 January 1955, 8 January 1955 and 7 February 1955.

Petroleum

433 The petroleum industry in Iraq has made striking progress during the post-war
382 period. Production and exports, which had been low mainly owing to the lack of
315 transport facilities, increased sharply following construction of new pipelines
439 to the seacoasts. Exploration activities led to the discovery of new oilfields, which are being developed. As a result of increasing output of petroleum and the revision of the terms of payment, Iraq's oil revenues have multiplied. These revenues have provided the financial means for development of the country's resources. Revenue from the oil industry, which is in the form of sterling, together with the substantial and rising foreign exchange disbursements of the oil companies for local expenditures, increased considerably the foreign exchange supplies of the country and made larger imports possible. Availability of [464] petroleum products, at relatively low cost, has facilitated economic development, and the consumption of oil products has increased severalfold. In addition, the petroleum industry has given employment to an increasing number of employees (see table 27) and is providing them with training. After a setback during the war years, when production declined to 1.6 million metric tons in 1941, output of crude petroleum in 1944 recovered to its pre-war level of 4.3 million metric tons. Construction of two additional pipelines, parallel to the previous lines and with a yearly capacity of about 4.5 million tons each, started immediately after the end of the war. The pipeline to Tripoli was completed in 1949, but construction of the other, destined for Haifa, was interrupted by the Palestine conflict and it remains incomplete. Another large-diameter pipeline with an annual throughput capacity of 13.5 million tons, linking the Kirkuk field to Baniyas in Syria, was completed in 1952 at a cost of ID 41 million. In the meantime, the activities of the Basrah Petroleum Company and the Mosul Petroleum Company, Ltd., both affiliated with the Iraq Petroleum Company, led to the discovery of Ain Zalah and Butmah oilfields in the Mosul area, and Zubair and Rumaila oilfields near Basra. The development of these fields, especially Zubair, and the installation of pipelines and oil handling facilities during the past four years, has increased substantially the crude petroleum export capacity of Iraq. In addition, another smaller oilfield had been discovered by a subsidiary of the Anglo-Iranian Oil Company before the war at Naftkhaneh, near the Iranian border, and its output, which was refined locally, served the domestic market exclusively.

As a result of the foregoing developments during the last decade, as well as increasing world demand for petroleum, production of crude oil, which had declined from 4.7 million tons in 1946 and 1947 to 3.4 million tons in 1948, because of the Palestine conflict and the shutdown of the pipeline to Haifa, started to rise sharply, to 6.5 million tons in 1950, 18.9 million in 1952, and 29.6 million in 1954, representing in the latter year 4.3 per cent of the world's crude petroleum output as against 1.5 per cent in 1938. This production may be compared with proved oil reserves, which were estimated at 700 million tons in early 1949, and nearly 2,300 million tons at the end of 1954. Total investment in the petroleum industry of Iraq was estimated in 1952 at approximately ID 90 million, of which the main portion had been for construction of pipelines.

439 Iraq is exclusively an exporter of crude petroleum; the value of petroleum
382 exports was estimated at ID 137 million in 1954 as compared with ID 10 million
471 in 1938. Exports are handled by the parent companies of the Iraq Petroleum Company and its affiliates, but under the terms of the February 1952 agreement,

439 the Government of Iraq is entitled to take, as part of the payment by the oil companies, up to 12.5 per cent of crude oil produced by the operating oil companies and to develop its own export market. Refining activities are relatively small. There were three refineries at the end of 1953, with a combined annual capacity of nearly 800,000 tons of crude throughput. The output of petroleum products increased from 350,000 tons in 1949 to 650,000 tons in 1952. In order to increase refining capacity to meet rising local demand, the Government is constructing a refinery, with a capacity of over one million tons a year at Dora, near Baghdad. The plans was expected to cost ID 9 million and to start operations in 1955. In addition, the Government approved in 1953 a proposal to construct a lubricating oil plant to meet local needs. These government refineries will be supplied by crude oil, sold by the Iraq Petroleum Company, according to the February 1952 agreement, and delivered to the Government at K.2 pumping station; from there the Government will carry it in its own pipeline. The price of such oil, which will be for sale only in Iraq, is to be five shillings, sixpence, per ton of oil, plus a fixed charge of £65,000 per annum as the cost of pumping such oil to K.2 station. Consumption of petroleum products in Iraq increased from about 190,000 tons in 1938 to 385,000 tons in 1946 and nearly 800,000 in 1953.

651 Government revenues from oil operations were multiplied because of increasing production and exports and because of changes in the terms of payments by the producing companies. Prior to 1950, Iraq received the equivalent of $1.65 a ton, which was increased to about $2.45 a ton according to the agreement concluded in August 1950. This in turn was superseded, in February 1952, by a new agreement, retroactive to 1 January 1951, between the Government of Iraq on the one hand and the Iraq Petroleum Company, Basrah Petroleum Company and Mosul Petroleum Company, on the other. The agreement provided for an equal sharing of profits, with profits to be determined before deduction of foreign taxes, on the basis of fixed values and costs of petroleum. Under article 9 of this agreement, the share of the Government in profits from crude oil of Kirkuk quality on the Iraqi-Syrian border was calculated to amount to 35s. 6d. per long ton in 1951, increasing to 40s. 6d. in 1953 and thereafter; the corresponding figures on the Persian Gulf at Fao were 29s. 4 1/2d. and 34s. 4 1/2d. per long ton, respectively. This provision involved a discount of 17s. 6d. per long ton for Kirkuk oil from its Iraqi-Syrian border value, and 13s. for southern Iraqi oil from the posted prices in the Persian Gulf. A new agreement reached in March 1955, retroactive to January 1954, reduced this discount to a flat rate of 2 per cent, and resulted in a rise of 7s. per ton in revenue for Iraq. Direct payments to the Government, which were the equivalent of about ID 2 million in the fiscal year 1938/39 and ID 2.3 million in 1946/47, increased to ID 5.4 million in 1950/51 and nearly ID 68 million in 1954, all paid in sterling. Local expenditures by the oil companies for the purchase of local materials and payment of wages to workers, kept pace with the development of the petroleum industry; such sterling disbursements of the oil companies amounted to the equivalent of ID 7.2 million in 1952 as against ID 2.1 million in 1946 and ID 580,000 in 1938.

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Other industries

433 Government attempts to promote industrialization began with the "Encouragement of Industries" Law of 1929, which exempted industrial machinery and certain raw materials from customs duties and also exempted new industries from certain taxes;

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in 1935, the Agricultural and Industrial Bank was founded. Little progress was achieved before the outbreak of the Second World War, and during the war the difficulty of importing equipment prevented expansion. However, after 1942, industrial investment began to increase, the total amount from 1943 to 1948 being ID 3,089,000. 1/ Between 1948/49 and 1951/52, the capital invested in the principal industries, other than petroleum, increased from about ID 312 million to ID 4.4 million, the value of production from 1.4 million to ID 3.6 million, and the number employed from 1,649 to 3,837. 2/ Since then, there has been substantial development. In 1954 it was estimated that there were some 70,000 to 80,000 persons engaged in manufacturing. Of these, somewhat less than half were handicraftsmen; some 13,000 were employed in the petroleum industry; 10,000 to 15,000 in the textile and leather industries; about 6,000 in the building materials industry; about 4,500 in the food and beverages industries; and some 3,000 to 4,000 in the tobacco industry. 3/

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Manufacturing is concentrated around Baghdad, which accounts for about 70 per cent of total factory employment. In 1954, a check on firms in Baghdad showed that, of a total of 31,600 workers, 6,700 were in firms with over 1,000 employees; 3,800 were in firms with 500 to 999 employees; 2,000 were in the 250-499 group; 4,300 were in the 100-249 group; 3,000 were in the 20-99 group; 1,500 were in the 10-19 group; and 10,200 worked in firms employing 9 persons or less. 4/

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Recent surveys have indicated that Iraq may contain appreciable quantities of iron ore, copper, sulphur and sulphur compounds, gypsum, bitumen, dolomite, calcite and different varieties of marble. 5/ However, up to the present, little use has been made of these minerals, and the most important industries are those based on agricultural materials, namely: spinning and weaving of cotton and woollen textiles; rayon weaving; jute spinning and weaving; soap-making (about 7,500 tons); vegetable oils; tanning; tobacco products; beer (1,840,000 litres); alcohol (318,000 litres) and alcoholic drinks (1,560,000 litres). The recently founded cement industry produces about 200,000 tons a year. Consumption of electricity increased from 47 million kilowatt-hours in 1946 to 82 million in 1949 and 272 million in 1953. The amount used in manufacturing increased from 20 million kilowatt-hours in 1946 to 35 million in 1949 and 159 million in 1953. 6/

1/ Industrial Bank, First Annual Report (Baghdad, 1948) (in Arabic).

2/ Hassan Ahmad Salman, "Development of Industry in Modern Iraq", Ameed, March 1954 (Baghdad).

3/ Carl Iverson, Monetary Policy in Iraq (Baghdad, 1954), page 71.

4/ The Iraq Times Annual, 1954 (Baghdad), page 54.

5/ Salman, loc. cit.

6/ These figures include electricity consumed at the oilfields, which increased from about 11 million kilowatt-hours in 1946 to about 21 million in 1949 and about 116 million in 1953; they exclude electricity consumed at pipeline stations, which amounted to 71 million kilowatt-hours in 1953 (Statistical Abstract).

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647 Previously the Government had carried out several schemes in various fields but development projects had had to be kept small and had been aimed at the more immediate needs. Financing was carried out by means of yearly capital works appropriations, totalling about ID35 million from 1931 to 1950. It is not, however, clear whether these appropriations were fully spent.

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433 The execution of the Six-Year Plan was entrusted to the Development Board, established in the spring of 1950 under law No. 23 of 1950 as amended by law No. 6 of 1952. It was constituted under the presidency of the Prime Minister; the members were the Minister of Finance and six executive members, nominated by the Council of Ministers for a term of five years, including three experts, one each in finance and economics; in irrigations; and in an unspecified field to be prescribed by the Council of Ministers. The Board was entrusted with the duty of preparing "a general economic and financial plan for the development of the resources of Iraq and the raising of the standard of living of the people"; with undertaking "a general survey of the exploited and unexploited resources of Iraq"; with the execution of the plans "in accordance with their determined priority"; and with co-ordinating the various ministries' development schemes in relation to the general development of the country. The Board has its own budget, and its revenue consisted, at the outset, of the total revenue received from the oil companies, but in 1952 this was amended to 70 per cent plus such other sums as may be allotted to it by Parliament and the proceeds of any loans, domestic or foreign.

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433 In July 1953 the Ministry of Development was set up, headed by a new cabinet minister who became the ninth voting member, the Board's representative on the Council of Ministers and the link between Parliament and the Board. The new law did not change the Six-Year Plan or the financial structure of the Board, although it changed the latter's organizational framework and required the new minister to prepare a new development plan to be executed after the completion of the present one. Furthermore, with a view to administrative decentralization, a distinction has been made between "capital development projects" to be carried out entirely by the Board and "small development projects" which, though financed by the Board, are to be entrusted to the appropriate government departments for execution. The Board held its first meeting on 30 November 1950 and in May 1951 prepared its general programme, which was approved by Parliament in June 1951. The Six-Year Plan (1951 to 1957) calls for a total expenditure of ID 155.4 million and an estimated revenue of ID 168.7 million.

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647 Actual expenditures on development plans for the financial years 1951/52 to 1953/54 totalled ID 26 million. They fell short of planned expenditure, which amounted to ID 58.2 million, thus leaving an unspent balance of ID 31.9 million. The building programme and reclamation of lands and other projects ran nearest to schedule while irrigation and industry lagged behind (see table 31). In addition, the Board has granted a number of loans to municipalities and semi-governmental institutions; to the end of March 1954, an [illegible] (in thousands of Iraqi dinars):

Omnibus service, Baghdad	1,000
Agricultural machinery and tools	500
Oil refinery service	6,000
Baghdad Water Board	660
Directorate General of Iraqi Railways	2,500
Industrial Bank	500
Eight municipalities	3,553
Total	14,113

67: United Nations S-5 (1945-1954) 1955 MI Middle East
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Table 31. Iraq: Allotments and Anticipated Expenditure of the Development Board, 1951/52 to 1953/54

(Thousands of Iraqi dinars)

Item	1951/52		1952/53		1953/54		Surplus, 1951/52 to 1953/54
	Allotments	Anticipated expenditure	Allotments	Anticipated expenditure	Allotments	Anticipated expenditure	
Administrative and research expenses	170	110	460	260	600	300	560
Irrigation expenses	3,024	1,733	7,100	1,064	10,840	4,000	13,807
Major roads and bridges	2,066	836	3,800	2,933	4,700	2,500	4,398
Buildings	2,368	1,368	2,650	2,650	3,100	2,900	1,200
Reclamation of land etc.	1,736	953	3,450	2,076	4,150	2,150	3,157
Industries	-	-	3,000	5	5,000	500	6,495
Total	9,364	5,000	20,460	8,988	28,390	12,350	31,876

Source: Development Board, Annual Report, 1953/54 (Baghdad, 1954); figures are for fiscal years ending 31 March.

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The increase in oil production and other earnings of the Board resulted in a higher revenue during the years 1951/52 to 1953/54 than that originally estimated, in spite of a smaller withdrawal from the $12.8 million Wadi Tharthar project loan granted by the International Bank for Reconstruction and Development. In the meantime, the Board's over-all expenditure during the same period amounted to about ID 40 million, including loans and advances; accounts deposited with the National Bank of Iraq for the disbursement of the Tharthar project; and the sum of ID 10.5 million paid to the Ministry of Finance for the schemes undertaken by the various ministries on behalf of the Board (see table 32). Furthermore the Board has authorized government departments to finance various plans on its behalf, and has awarded several contracts for its major plans to various foreign and national companies. Some of these plans have already been completed and the rest are to be completed in the next few years. Thus the actual expenditure plus the obligated expenditure of the Board have been estimated to be about ID 45 to ID 55 million.

The most important reasons for deferring the expenditure of the allocated amounts provided for in the Board's budgets since its operation have been the delay in the approval of the programme by Parliament; the inability of the different departments, particularly in the first two years, to execute the projects entrusted to them by the Board; and the necessity for providing adequate time to study, survey and prepare the estimated cost and specifications for inviting tenders for the various projects. Most of the projects outlined in the original programme needed further studies and surveys, several of which have since been completed. Many have been submitted by various engineering consultants of international repute, and are under consideration by the Board. The Board hopes to accelerate the execution of such projects as were planned since it has almost reached the end of the planning stage.

Major projects

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One of the main purposes of the Six-Year Plan is to control floods in the Tigris and Euphrates by storing surplus water which can be used for irrigation. An over-all programme has been prepared, at an estimated cost of ID 355 million, providing for the construction of ten dams; 1/ it is expected to increase the cropped area by 75 per cent and raise net annual agricultural income from its present level of ID 62 million to ID 222 million; part of this programme is being implemented under the Six-Year Plan. The plan also provides for industrial expansion, the building of 3,500 kilometres of metalled roads and improvement of a further 3,000 kilometres.

1/ See Knappen, Tippets, Abbott and McCarthy, Report on the Development of the Tigris and Euphrates River Systems (Baghdad, 1954).

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There are several other projected dams and barrages on the Tigris and its tributaries (see map). The dam on the Tigris near Eski Mosul is estimated to have a capacity of 8 billion cubic metres and to cost ID 16 million. The Bekhme dam, on the Greater Zab, will have an initial capacity of 3 billion cubic metres and an ultimate capacity of 8.3 billion; its costs are estimated at ID 21.8 million and ID 39.6 million, respectively. The dam would provide irrigation for 625,000 hectares and a capacity of 600,000 kilowatts of electric power.

Two projects are planned on the Diyala, another tributary of the Tigris. A dam at Derbendi-Khan would have a storage capacity of 3.7 billion cubic metres and would increase the water supply for 309,000 hectares at present receiving light irrigation; its costs are put at ID 21 million. Preliminary work has begun. A barrage at Bani Saad, costing ID 1.75 million would, when complemented by the Nahrawan irrigation works, provide water for 223,000 hectares. In addition to the Dokan dam, a barrage is to be built on the Lesser Zab, at Hawija; it could irrigate 50,000 hectares. The Gharraf scheme will channel water from the projected Eski Mosul or Bekhme dams to 429,000 hectares in the Amara region. Another project, falling outside the Six-Year Plan, is a dam at Demir Kapu, on the Adhaim river, providing irrigation for 175,000 hectares, as well as electric power.

The total area which will be irrigated by the various projected schemes on the Tigris and its tributaries was estimated at 1.24 million hectares, and that by the Euphrates schemes at 560,000 hectares, a total of 1.8 million hectares. Work is also proceeding on the drainage of 233,000 hectares, and the Six-Year Plan provides for an expenditure of ID 23 million for land reclamation, agricultural research, afforestation, improvement of animal husbandry, filling swamps and marshes and various other schemes.

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Industrial development plans aim at both increasing the output of consumer goods and utilizing Iraq's petroleum resources to produce certain basic products. A cotton spinning and weaving factory is under construction near Mosul; it will have 20,000 spindles, thus doubling the present capacity 1/ and is expected to produce 20 million square metres of cloth per annum; a sum of ID 3,115,000 has been allocated for the project. 2/ Some expansion and improvement is also taking place in the privately owned woollen and rayon industries. 3/ Cement plants are being built, or planned, by both the Government and private enterprise. The Government is setting up factories at Mosul and Sarchinar, with a daily capacity of 350 tons each; completion is scheduled for 1956 and costs are estimated at ID 2.[illegible],000 and ID 3,115,000, respectively. 4/ In addition, a privately owned plant at Mosul with a capacity of 350 tons a day is scheduled for completion by July 1955, another privately owned plant, near Baghdad, is doubling its present capacity of 800 tons a day, and a third private plant, with a daily capacity of 700 tons, is to be established near Hindiya barrage. 5/ The completion of all

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1/ Salman, loc. cit.; existing capacity is privately owned.

2/ The Iraq Times, 5 February 1955 (Baghdad).

3/ Al Shaab, 28 February 1954 (Baghdad).

4/ The Iraq Times, 5 February 1955 (Baghdad).

5/ Ibid., 26 January 1955.

these schemes would raise annual capacity to over a million tons. Other projects include a sugar factory using locally grown beets to produce 10,000 tons of sugar per annum and refine 25,000 tons of imported sugar, at an estimated cost of ID 1.78 million; a pilot paper plant; a glass factory; a rayon factory; and a tobacco factory. 1/

The most important project connected with petroleum is a refinery with an annual capacity of one million tons, at Dora, near Baghdad. Completion was scheduled for 1955 and total costs have been estimated at ID 10.5 million. A pipeline supplying the refinery with crude petroleum, from Baiji, on the Euphrates west of Kirkuk, has been completed and five pipelines are under construction to carry the refined products to Baghdad and Um Al Adhem. 2/ An asphalt refinery being built at Qayara, near Mosul, at a cost of ID 1.15 million, is expected to produce 60,000 tons of asphalt per annum, as well as 24,000 tons of gas oil. A smaller plant at Muftiya, near Basra, with an annual capacity of 6,000 tons, was scheduled to start operations at the beginning of 1955. 3/ A lubricating oil refinery has also been approved near Baghdad; it will produce 25,000 tons and cost 3.4 million.

The major project under consideration is that for utilizing natural gases from the Kirkuk oil wells to produce chemical fertilizers, cement, sulphur and electric power. Two alternative projects have been submitted, one of which would cost ID 33 million and produce 500,000 tons of nitrogen fertilizers, 200,000 tons of cement and 100,000 tons of sulphur, while the other would cost ID 20 million and produce half these quantities.

A survey of mineral resources is being carried out by a group of foreign consulting engineers. Negotiations are proceeding with a United States sulphur company regarding the exploitation of Iraq's sulphur depcsits, which are believed to be large.

Other development projects include a highway and bridge building programme, the expansion of Baghdad airport and improvement of telecommunications. In addition, a large-scale building programme is under way, including hospitals, schools, low-cost housing and public buildings.

The new Five-Year Plan

The Ministry of Development and the Development Board have approved the new Five-Year Plan for the financial years 1955/56 to 1959/60. Subject to approval by Parliament, the plan calls for an estimated total expenditure of ID 303,306,100. Revenue estimates total ID 252,658,000. These are calculated on an estimated annual revenue of ID 43 million derived from a 70 per cent share of the oil receipts making a total of ID 215 million, plus a sum of about ID 38 million from previous years. The deficit of about ID 50 million is to be balanced by an anticipated increase in oil revenue during this period.

1/ The Iraq Times, 20 October 1954.

2/ Ibid., 6 December 1954.

3/ Ibid., 19 November 1954.